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ABSTRACT

This Vocational-Technical Education Consortium of States (V-TECS) guide provides materials for a farm business manager course. It is designed to be used with any teaching methods the instructor may choose. As an extension of a V-TECS catalog, the guide is based on the duties, tasks, performance objectives, and performance guides compiled in the catalog for general farm manager. For each task are provided a performance objective, performance guides, suggested learning activities, a list of resources, required tools and equipment, and evaluation standards. The duties are obtaining and/or disposing of the farm enterprise, managing and supervising the labor supply, managing the crop program, managing the livestock program, managing the machinery and equipment program, managing the farm buildings, managing finances of the farm business, managing taxes for the farm business, and performing general administrative services. Appendixes include a cross-reference table of duties, tasks, and performance objectives; a glossary; a tool and equipment list; and a bibliography. (YLB)

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# V-TECS GUIDE

# FOR

# FARM BUSINESS MANAGER

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V-TECS

VOCATIONAL—TECHNICAL EDUCATION CONSORTIUM OF STATES

CE041030

# V-TECS GUIDE

# FOR

# FARM BUSINESS MANAGER

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# INTRODUCTION

A V-TECS guide is an extension or continuation of a V-TECS catalog. While the V-TECS catalog compiles duties, tasks, performance objectives, and performance guides, it deals only with the psychomotor aspect of an occupation. A V-TECS catalog is a blueprint; an identification of the "hands on" aspect of the job. The catalog does not take into consideration such areas as the background information surrounding a task and how to make inferences, generalizations, and decisions from a body of knowledge, nor does it deal with attitudes, job seeking skills, safety, or energy conservation practices. It is the function of the V-TECS guide to take these aspects of teaching and learning into consideration.

Experience has shown that the art of learning can also be taught while teaching subject matter. People need to learn how to learn. The V-TECS guide is aware of how students learn and is an efficient way for instructors to assist students to learn.

The V-TECS guide is centered around all three domains of learning: psychomotor, cognitive, and affective. The following paragraphs will give a brief explanation of each area.

**Psychomotor**
Manipulative skills such as tightening a nut, replacing a hubcap, sharpening a pencil, machining a key slot in a steel shaft, or replacing a SCR in a solid state control panel are examples of manipulative or psychomotor skills. Tasks such as these are identified in a V-TECS catalog and grouped by duties and objectives. Each performance objective has a performance standard which must be met to prove student proficiency in the manipulative aspect of the task. The V-TECS catalog, however, does not include any suggestions with regard to learning to do these tasks. The V-TECS guide is developed around psychomotor tasks which are worker-oriented.

**Cognitive**
To perform psychomotor tasks, students must think. To tighten a nut they must know which direction to turn and when to stop turning so they won't strip the threads or shear the bolt off. To replace a hubcap, there is a certain technique that may vary from one car to another. For example, on some cars you have to start the hubcap by placing the cap in a tilted position and tapping it all the way around until it is properly seated. On a different model, it may be necessary to position the hubcap and snap it all at once. Whichever method a student is using he/she must think about what is being done. This involves cognition or mental activity. Cognition is what goes on in the mind about any job being done. A V-TECS guide provides both the collateral knowledge and the impetus to apply cognition to psychomotor tasks.

Students gain cognition through real and vicarious experiences. They may read, view tapes, and memorize or practice a process or procedure until they are certain of it. To test his/her knowledge, a student may be required to decide the proper procedure, method, or sequence for performance. This is decision making or cognitive activity at its highest level.

Cognition, then, is that process by which information is stored and used. That voice that warns one of potential dangers is cognition. Anything that goes on in the mind is cognition. A student may become the best worker at his/her job; but if he/she fails to think a process through and apply any available experience, he/she may become just another statistic. It is cognition that tells a student to lock and tag out the power supply to an electrical apparatus before starting to repair it. Good cognition or thinking can help an employee do a job better and quicker. A V-TECS guide provides for the cognitive aspects of learning.

**Affective**

Curriculum writers, supervisors, and instructors often fail to assist a student in acquiring a positive attitude toward self, job, school or fellow students. The V-TECS guide seeks to provide assistance to the instructor in this area. It is difficult for the instructor to identify each aspect of desirable behavior for every unit and often harder yet to teach them. In this area, a student might be judged on the housekeeping in the work area, punctuality, and ability to carry out directions. Potential employers are interested in student attitude because an angry or uncetain person is often a poor worker.

A student's ability to succeed on the first job and every job thereafter depends largely on attitude. If a student has the attitude of "let someone else do it," job deficiency will probably result. A student using a V-TECS guide will have participated in activities dealing with getting along with others, with supervisors or staff members, and in large and small groups.

# USE OF A V-TECS GUIDE

The V-TECS guide is designed to provide job-relevant tasks, performance objectives, performance guides, resources, learning activities, evaulation standards, and achievement testing in selected occupations. The V-TECS guide is also designed to be used with any teaching methods you, as an instructor, may choose. If the lecture/demonstration method is best for you, you will find sufficient help to meet your needs. If you prefer to use discussions or other methods that require student participation, you will find ample help. Regardless of which method is successful for you, a V-TECS guide can save preparation time and offer innovative methods and procedures. For example, a student may work either alone or on a team while in class and learn skills in direct relation to what is actually being done on the job. This approach also takes into consideration a student's attitudes, thinking skills, and mathematical reading skills.

The use of small groups in teaching can be helpful since many students may feel inadequate due to their lack of background information in mechanical things. Some students may also feel that they are physically incompetent or lack the necessary background experiences. A successful program (course) can provide students with a sense of security by reinforcing positive attitudes while improving their skills and subject knowledge. By allowing students to interact on a personal level, this task/learner-centered approach can achieve this. As students gain confidence and discover that they are an essential part of a team engaged in the learning-teaching process, their confidence increases. The student in this setting will also learn to work without direct supervision. In addition, use of the small-group method permits the instructor to vary instructional routines away from lecture or other full-class methods to activities for single students, pairs of students, or any number so desired.

In the V-TECS guide, you will find suggestions for specific classroom activities. These activities are not meant to restrict you or your students, but only to suggest a variety of learning activities for each task statement. Please do not feel that each student must complete all the activities.

V-TECS 1

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Establish and record personal and family goals

## PERFORMANCE OBJECTIVE

Given a list of present family resources, family choices and available alternatives, and the tools/equipment listed below, establish and record family goals that reflect these choices. Instructor must be satisfied that goals are compatible to individual/family resources. (1)

## PERFORMANCE GUIDES

1. Appraise and analyze physical and human resources and capabilities.
2. Identify individual family and business goals.
3. List available alternatives.
4. Assess available alternatives.

## LEARNING ACTIVITIES

1. The student will list three goals that might be considered most important by each family member for next year.
    a. Father--beginning to achieve success as farm operator
    b. Cindy--16-year old daughter who likes music and boys; may go to college after high school
    c. Bill--high school senior who likes sports, girls, and music; may want to farm
    d. Mother--bookkeeper for the farm enterprise
2. The student will describe important conflicts between the goals.
3. The student will list the goals that seem to be harmonious.
4. The student will make plans which would best attain the goals sought by this family.
5. The student will record 5 long-term (5-year or longer) goals which the student's family considers worthy and within reach of the family. The student will discuss these goals with his/her family.
6. The student will list long-term goals for him/herself under the following headings:
    a. Personal and Financial
    b. Career
    c. Educational and Training

7. After careful deliberation the student will revise the goals and keep them in a safe place. These goals should be systematically revised at least once a year.

RESOURCES

**Farm Management Handbook**, Chaps. 1-2
**A Guide for Planning Family Spending**, pp. 1-6
**Financial Planning in Agriculture, Teacher's Manual**, pp. 13-30

TOOLS AND EQUIPMENT

Paper
Pencil

EVALUATION

1. The student will make a list of the major factors that would influence his/her choice of financial goals for the next year.
2. Given a farm-family situation, including the family members and the farm-family resources, the student will plan financial goals for the family and for each family member. These goals must reflect the farm-family resources.
3. The student will plan the farm operation program that will attain these goals The program must reflect the farm-family resources.
4. The student will plan and establish medium to long-term goals (high school and most of the high school or college years) for him/herself. These should be consistent with resources and ambitions.

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Establish and record farm financial goals

## PERFORMANCE OBJECTIVE

Given the present factors of production (land, labor, capital, and management), established family goals, and the tools/equipment listed below, establish and record farm financial goals that are compatible with individual family resources. (1)

## PERFORMANCE GUIDES

1. Review individual and family goals.
2. Determine cash income needs.
   a. Family living
   b. Family retirement program
   c. Operating expenses
   d. Debt retirement
   e. Capital purchases
3. Assess available factors of production.
4. List available factors of production.
5. Calculate cash and/or accrual income sources.
6. Analyze actual financial performance in similar situations, personal past performance, and planned performance.
7. Review disposal tax strategies of capital assets.
8. Select and record farm financial goals.

## LEARNING ACTIVITIES

1. The student will discuss the factors to be considered in establishing financial goals for a farm. List these factors in order of importance when establishing financial goals.
2. The student will list the steps in the process of establishing and recording the goals. Consider the effect of leaving out each step, one at a time.
3. The student will complete a financial statement for his/her farm or a case farm provided by the instructor. Use "Money Map" or other similar form.
4. Using the steps listed for Learning Activity 2, the student will establish and record financial goals for his/her farm or a case farm provided by the instructor.

## RESOURCES

**South Carolina Farm Record Book**, pp. 36-43
**Cost and Returns Per Unit** (separate sheets available for most crop and livestock enterprises)
**Money Map**
**Farm Management Handbook**, pp. 473-475
**Financial Planning in Agriculture**, pp. 7-8
**Modern Agricultural Management**, pp. 9-10, 115-120
**Financial Planning in Agriculture, Teacher's Manual**, pp. 13-30, 39-57
Internal Revenue Service (IRS) Tax Forms

## TOOLS AND EQUIPMENT

Calculator
Paper
Pencil

## EVALUATION

Given the following hypothetical situation, the student will complete Activities 1-3.

A farm enterprise consists of the following:

70 hereford brood cows and bulls
12 brood sows
25 acres corn for silage
20 acres corn for grain
25 acres grain sorghum
70 acres soybeans
140 acres pasture

The replacements in the beef herd are raised on the farm. The rest of the calf crop is sold when the calves are about one year old.

The pigs are kept until market size and sold at auction.

Using Extension Agricultural Economics Bulletins, **Costs and Returns Per Unit**, and other available information, the student will perform these activities.

1. Record the estimated costs and returns for each phase of the farm enterprise.
2. Using current prices when other information is not available, estimate closely the net farm income. Evaluate this income for a young couple with two children.
3. A neighbor owns 150 acres of idle cultivatable land of average fertility. The owner is willing to rent this land for $25 cash per acre.
    a. List the factors that would influence the decision concerning how much, if any, of this land should be rented and included in the farm operation.
    b. Prepare a plan for the use of the rented land that would yield the highest net income.

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Develop plan for type and size of farm enterprise

## PERFORMANCE OBJECTIVE

Given goals, abilities and resources, and the tools/equipment listed below, develop a plan for type and size of farm enterprise. Completed plans must be reviewed by instructor who has access to all planning information. Instructor must confirm that plans will assure type and size of farm enterprise to support family living and provide repayment ability needed to maintain the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review personal and family goals.
2. Evaluate personal interest, experience, and management abilities.
3. Identify enterprises compatible with goals and abilities.
4. Inventory present resources: climate, land, market availability, labor, capital and management.
5. Determine size and mix of resources.
6. Select enterprise best suited to present resources.
7. Draft plan.

## LEARNING ACTIVITIES

1. The student will inventory and evaluate the resources available for the farm business (*Chap. 10).
2. The student will summarize the present/normal situation (*pp. 197-202).
3. The student will plan the cropping system (*Chap. 11 and p. 195).
4. The student will plan the selection of livestock enterprises (*Chap. 11 and p. 196).
5. The student will put the plan in Learning Activity 4 together. After working out alternative plans, choose one you would recommend for long-term development on the farm. Follow the 10-step process (*pp. 196-197).
6. The student will write an evaluation of the plan. Consider the factors (*p. 188) as well as profitability and feasibility.
7. The student will list alternatives if income is not sufficient to support the farm family ( **Farm Management Handbook**, pp. 212-214).

***Modern Agricultural Management**

## RESOURCES

Farm Soil Classification and Land Use Map (SCS)
Land Use Classification (*p. 170, blank forms)
Labor Estimate Worksheet (*p. 172, blank forms)
Per Acre Enterprise Budgets (*p. 182, blank forms--leave off "Corn" and "Wheat" headings and leave "Value Per Acre" column blank)
Per Unit Livestock Enterprise Budget (*form on p. 184 can be adapted by leaving extra blank lines)
Case farm located nearby. Obtain the following items prior to commencing this task.

1. Farm Soil Classification and Land Use Map (SCS)
2. Land Use Classification (*p. 170, blank forms)
3. Labor Estimate Worksheet (*p. 172, blank forms)
4. Per Acre Enterprise Budgets (*p. 182, blank forms--leave off "Corn and "Wheat" headings and leave "Value Per Acre" column blank)
5. Per Unit Livestock Enterprise Budget (*form on p. 184 can be adapted by leaving extra blank lines)
6. Farm Investment Capital (*p. 198, blank forms--data for present plan will be needed)
7. Summary: Capital, Labor, Income and Returns (*p. 200, blank forms--data for present plan will be needed)
8. Summary: Cropping System (*p. 201, blank forms--data for present plan will be needed)
9. Summary: Livestock System (*p. 201, blank forms--data for present plan will be needed)
10. Summary: Debt Payment and Available Cash (*p. 210, blank forms)
11. **Farm Management Handbook**, Chap. 13
12. **Doane's Agricultural Report**, pp. 543-544

## TOOLS AND EQUIPMENT

Agriculture Budgeting Guides
Agriculture Trade Journals
Calculator

## EVALUATION

Given the following hypothetical situation, the student will complete Activities 1-4.

The Finleys, Mark and Susan, are in their early thirties. They own the farm outlined in V-TECS Task 2. Mark manages the farm while Susan teaches school. They have two children, Thomas Mark, aged 7, and Kathy, aged 5. Tommy is in elementary school and Kathy goes to kindergarten.

The Finleys hope to increase the farm income so Susan can stay home to help with the farm operation and rear the family.

In addition to the projects listed in V-TECS Task 2, the farm has 70 acres of woodland, giving a total farm acreage of 360. Mark inherited 200 of the 360 acres, and last year bought the other 160 acres for $128,000. He made a down payment of $24,000 and financed the balance at 10%. The total land is valued at $360,000, the buildings at $180,000, and the machinery and equipment at $90,000. The value of the livestock on the farm is $95,000, and the feed and crops on hand are valued at $18,000. The farm bank account has a balance of $21,000.

***Modern Agricultural Management**

In addition to the mortage on the farm land of $104,000 (20-year payment), there is $8,000 in debts now due and $40,000 in medium-term (5-year) loans at 12%. Mike hired part time help that cost him $8,000 last year. The neighbor's land cited in V-TECS Task 2 is available for rent as stated or for sale at $900 per acre.

1. Figure the net worth of this farm operation.
2. Restructure the farm enterprise so the greatest possible net return will be realized.
3. Make recommendations to either rent or buy the available farm land. Support recommended land use, giving production and income forecast.
4. Evaluate the long-term operation of this farm. List any further recommendations that you feel would help the Finley family attain its financial goals.

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Obtain title to farm real estate

## PERFORMANCE OBJECTIVE

Given information on abstract and/or title insurance, and legal opinion, obtain title to farm real estate. Instructor must be satisfied that the title will provide unencumbered ownership. (1)

## PERFORMANCE GUIDES

1. Request updated abstract and/or title insurance.
2. Contract for legal opinion and abstract.
3. Determine acceptance or rejection of abstract and/or title insurance based on information available.
4. Provide for safe storage.
5. Obtain title.

## LEARNING ACTIVITIES

1. The student will secure an abstract of title to a selected piece of farm real estate. What has happened to the property since it was owned by the government?
2. The student will choose between the "A" and "B" American Land Association forms.
3. The student will discuss the value of title insurance and of securing a legal opinion of the title.
4. The student will list the factors necessary to make the title official.
5. The student will discuss the importance of recording the deed and keeping it in a safe storage place.
6. The student will list the legal service normally used in the purchase of property. Interview an attorney or real estate agent to determine the cost of these services and who pays for them.

## RESOURCES

**Financial Planning in Agriculture,** pp. 65-66
**Credit in Agriculture, Teacher's Guide,** Chapter 3
**Doane's Agricultural Reports,** pp. 575-586
Local Attorney

## EVALUATION

1. The student will outline the steps necessary in obtaining and recording a legal title to farm real estate.
2. The student will list and evaluate the legal services normally utilized in purchasing real estate and recording the title.
3. The student will define the following terms and discuss their importance.
   a. Title of property
   b. Abstract of title
   c. Legal opinion of title
   d. Title insurance
   e. Recording title
   f. Safe storage of title

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Complete farm rental/lease agreement

## PERFORMANCE OBJECTIVE

Provided a case situation which describes rental/leasing needs and the tools/equipment listed below, complete a farm rental/lease agreement. The agreement must meet the leasee's needs as interpreted by the instructor, and use the case information provided. (1)

## PERFORMANCE GUIDES

1. Review/evaluate alternative methods of rental/lease.
2. Determine appropriate method of rental/lease.
3. Secure appropriate lease form as a guide.
4. Retain legal counsel.
5. Adapt necessary parts of lease form to meet needs of the farm enterprise.
   a. Option to purchase
   b. Improvement credit
6. Review lease with attorney(s) for possible changes/termination.
7. Obtain signature of all interested parties.
8. Furnish each interested party with copy of completed signed lease.

## LEARNING ACTIVITIES

1. The student will list the primary advantages of renting a farm rather than owning one.
2. The student will list three types of farm lease options and give the advantages of each.
3. The student will make a checklist of ten items to consider when leasing a farm.
4. The student will draw up a cropshare lease for a general farm that would be fair to the lessor (landlord) and the lessee (renter).
5. The student will give some reasons for retaining legal advice when entering a lease agreement.
6. The student will list some items other than land or buildings that may be leased.

## RESOURCES

**Modern Agricultural Management, pp. 281-289**
**Financial Planning in Agriculture, pp. 27-28**
**Renting and Leasing Farm Machinery**
**Crop-Share or Crop-Share-Cash Farm Lease**
**Fixed and Flexible Cash Rental Arrangements for Your Farm**
**Risk and Rent - What's Fair?**
**Doane's Agricultural Report, pp. 563-568**

## TOOLS AND EQUIPMENT

Lease forms

## EVALUATION

Given the following hypothetical situation, the student will complete Activities 1-4.

Mr. and Mrs. Jones, both of retirement age, own and operate a 600-acre farm. The farm has been kept at above average level of fertility and production. The primary crops that have been grown are corn, small grains, sorghum grains, soybeans, and pasture and haycrops. Mr. and Mrs. Jones have been milking a herd of 60 Holstein cows. The buildings and machinery and equipment are adequate for the present operation. The net worth of the farm is about $1,000,000.

Mr. and Mrs. Jones have decided to retire and the farm is for lease or sale.

James and Earl Campbell (aged 21 and 24) are brothers and have been operating a 200-acre general farm in addition to maintaining their regular jobs in the nearby town. Now they are considering renting the Jones' farm from Mr. and Mrs. Jones and becoming full-time farmers.

1. Evaluate different kinds of rental agreements that might be used in this case (yearly share rental, long-term share rental, short and long-term cash rentals, cash or share rentals with option to buy, etc.).
2. Plan a share rental agreement for this farm that would be fair for the lessor and lessee.
3. Plan a long-term cash rental agreement with option to buy.
4. List the legal steps and safeguards that should be used in these agreements.

## DUTY: OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Purchasing building insurance

### PERFORMANCE OBJECTIVE

Given the size and value of each building, risk and available insurance, and the tools/equipment listed below, contract for insurance coverage. Instructor must be satisfied that insurance coverage will provide an amount for replacement sufficient to maintain the enterprise. (1)

### PERFORMANCE GUIDES

1. Define insurance terms.
2. Measure size of all buildings.
3. Appraise value of each building.
   a. Replacement value
   b. Use value
   c. Resale value
   d. Depreciated value
4. Select method of valuation.
5. Determine risks.
6. Obtain interpretation of insurance coverage.
7. Compare available insurance.
8. Check for accurate description of property.
9. Contract for adequate coverage.

### LEARNING ACTIVITIES

1. The student will decide what proportion of the risk associated with farm buildings should be covered by insurance.
2. The student will list some ways farmers can reduce risk of loss other than by insurance.
3. The student will evaluate assessable vs. non-assessable policies and farm owner package policies vs. separate policies for each peril.
4. The student will determine the amount of building insurance required.
5. The student will shop for and select a policy.

### RESOURCES

**Farm Management Handbook,** Chap. 22
**Modern Agricultural Management,** Chap. 20
Representative of a mutual insurance company
Representative of stock insurance company
**Financial Planning in Agriculture, Teacher's Manual,** pp. 141-145

### TOOLS/EQUIPMENT

Calculator
Camera
Measuring tape
Paper
Pencil

## EVALUATION

1. The student will make a comprehensive list of the reasons for insuring buildings.
2. The student will list and evaluate the different types of insurance policies available for farm buildings.
3. The student will make a complete survey of all the farm buildings if he/she lives on a farm. (If the student does not live on a farm, get permission from a farmer in the community to make a study of the insurance needs for the buildings on his/her farm.) This survey should include the measurements of the buildings, their original value, rate of depreciation, present value, present use, risk factor, etc.
4. The student will make a survey of available insurance for farm buildings. Obtain pertinent information such as cost and extent and limits of coverage.
5. The student will complete an insurance plan that will include all farm buildings. This must be consistent with the farm resources, and with the value and risk factor of the buildings.

## DUTY: OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Purchase liability insurance

### PERFORMANCE OBJECTIVE

Given risk and exposure to liability, farm value, limits of protection needs, available rates and coverage, farm record books, and the tools/equipment listed below, obtain liability insurance. Instructor must be satisfied that liability insurance is adequate for the type of risks involved in the farm enterprise. (1)

### PERFORMANCE GUIDES

1. Analyze risk and exposure to liability.
2. Assess farm value.
3. Evaluate limits of liability needs.
4. Consult/compare available insurance rates and coverage.
5. Obtain interpretation of insurance coverage.
6. Contract for desired coverage.

### LEARNING ACTIVITIES

1. The student will survey 10 or more local farmers to ascertain their practices regarding the purchase of liability insurance. Information should include what risks are covered, whether blanket farm owner or separate liability policies are purchased, the limitations on liability, and the amount of coverage and costs.
2. The student will list factors that affect the amount of liability risk faced by a farmer.
3. The student will decide upon the liability coverage needed.
4. The student will shop for and choose a policy.

### RESOURCES

**Modern Agricultural Management**, pp. 330-331
**Financial Planning in Agriculture**, pp. 26-27
**Doane's Agricultural Report**, pp. 556.7-558
Local insurance representatives
Informational literature and sample policies from the insurance companies
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-145

### TOOLS AND EQUIPMENT

Agriculture Insurance Bulletins/Periodicals/Magazines
Calculator
Consumers' Handbook for Insurance
Farm Management Service Publications
Farm Produce Price Lists
Machinery Price Lists
Record Books

## EVALUATION

1. The student will define the term "liability insurance" and list the reasons why liability insurance is needed on the farm.
2. The student will make a list of the factors on the farm that liability insurance should cover.
3. The student will make a survey of the liability insurance needed on his/her home farm or on a neighbor's farm. After the survey is made, consult with an insurance company to determine the coverage and cost of this insurance. Write up this case study with liability insurance recommendations and turn it in to the instructor.

**DUTY:** OBTAINING AND/OR DISPOSING OF THE FARM ENTERPRISE

**TASK:** Transfer farm ownership

## PERFORMANCE OBJECTIVE

Given access to appraisal, transfer and tax information, legal counsel, family goals, and the tools/equipment listed below, obtain transfer of farm ownership. Instructor must confirm that transfer of farm ownership satisfies the needs of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review family goals.
2. Obtain legal counsel.
3. Retain qualified appraiser.
4. Review income tax obligations/implications.
5. Review potential investment credit recapture.
6. Review potential depreciation recapture.
7. Evaluate potential tax savings of business ownership methods.
    a. Sole ownership
    b. Partnership
    c. Corporate ownership
8. Establish timetable for transfer of ownership.
9. Establish selling price.
10. Evaluate partial transfer technique.
    a. Profit sharing
    b. Tenant share
    c. Farm operating agreement
    d. Gifting
11. Select buying/selling plans.
    a. Partial sale
    b. Installment sale
    c. Cash sale
12. Obtain transfer of farm ownership.

## LEARNING ACTIVITIES

1. The student will list factors that determine the feasibility of bying a farm (**Modern Agricultural Management**, pp. 278-281; **Farm Management Handbook**, pp. 145-151).
2. The student will compare the different kinds of ownership for a farm business (**Modern Agricultural Management**, pp. 231-245; **Farm Management Handbook**, pp. 127-136).
3. The student will list the important steps in purchasing land (**Financial Planning in Agriculture**, pp. 64-65).
4. The student will list the points to consider in a purchase which should be clearly specified in the written contract of sale (**Financial Planning in Agriculture**, pp. 65-66).
5. The student will draw up a plan with which a young person with limited resources could obtain access to a farm (**Financial Planning in Agriculture**, pp. 65-68).

## RESOURCES

**Modern Agricultural Management**, pp. 231-245, 275-282
**Financial Planning in Agriculture**, pp. 64-68
**Farm Management Handbook**, pp. 231-245. 463-471
**Financial Planning in Agriculture, Teacher's Manual**, pp. 187-207, 281-297

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Management Information Resource
Farm Management Service Publications
Income Tax Guides
Record Books

## EVALUATION

1. The student will write an evaluation of these types of ownership, including the advantages and disadvantages of each.
   a. Sole ownership
   b. Partnership
   c. Corporate ownership
2. The student will refer to V-TECS Task 5. The Campbell brothers are working the Jones' farm with an option to buy and have decided to purchase the farm.
   a. List the procedure of the farm sale and transfer of ownership step by step.
   b. Explain the difference in the transfer procedure in this partnership agreement versus a sole ownership agreement.
   c. Plan a written contract agreement for the transfer of ownership of this farm.
3. The student will write a summary of the tax implications for short-term and long-term farm ownership transfer and make recommendations that might ease the income tax burden.

DUTY: MANAGING AND SUPERVISING THE LABOR SUPPLY

TASK: Develop a plan for amount of labor needed

## PERFORMANCE OBJECTIVE

Given assessment of available labor and labor needs, and the tools/equipment listed below, develop plan for amount of labor needed. Instructor must confirm that the plan and labor supply are compatible to the needs of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess amount of labor required.
2. Assess available labor force.
   a. Family members
   b. Hired help
3. Study feasibility of additional mechanization to extend labor supply.
4. Study feasibility of elimination or changing size of an enterprise to adjust to labor supply.
   a. Part-time employees
   b. Full-time employees
5. Plan for amount of labor needed.

## LEARNING ACTIVITIES

1. The student will compare labor requirements found on the "Cost and Returns" sheets for various enterprises with the labor efficiency (**Modern Agricultural Management**, pp. 115-120). Decide on realistic labor requirements for enterprises included in the farm plan.
2. The student will prepare a labor estimate worksheet for a farm on a monthly basis.
3. The student will determine the amount of family labor available for each month. Consider all realistic alternatives and decide what to do about any significant imbalance between the supply and demand for labor.
4. Develop a computer program to figure labor needs.

## RESOURCES

**Modern Agricultural Management**, pp. 115-120, 169, 171, 172
**Costs and Returns Per Unit** (sheets available for various enterprises)
**Custom Work on Farms in South Carolina**, 1977
**Labor Management on the Farm**, Pub. No. 12

## TOOLS AND EQUIPMENT

Agriculture Bulletins
Budget materials
Complete Farm Management Informational Resources
Farm Management Service Publications
Microcomputer

## EVALUATION

The student will refer to Unit 2 and to Extension Agricultural Economics Bulletins when doing this exercise. Given the following hypothetical situation, the student will complete Activities 1-4.

A farm operation consists of the following units:

70 brood cows
12 brood sows
25 acres corn silage
20 acres corn for grain
25 acres sorghum grain
70 acres soybeans
140 acres pasture

This is a one-family farm consisting of a mother, father, daughter (aged 14) and son (aged 17).

1. After considering all factors, make recommendations for the labor requirements for this farm on a monthly basis.
2. Review the farm units and make recommendations that would reduce the amount of labor needed and might increase the efficiency of the farm.
3. Evaluate the labor saving possibility of hiring custom work to harvest the crops.
4. Interview an employment service and determine the availability of farm labor. Write a report comparing the available labor source with the labor needs shown in the above farm case study.

**DUTY:** MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Hire and dismiss workers

## PERFORMANCE OBJECTIVE

Given assessment of labor needed, competencies required, potential employee(s), training record, record of employee performance, and the tools/equipment listed below, hire and/or dismiss worker(s). Instructor must agree that the qualifications of employees retained can be expected to meet the needs of the farm enterprise.

## PERFORMANCE GUIDES

1. Assess the amount of labor needed.
2. Assess degree of competency required.
3. Contact prospective employee(s).
4. Interview prospective worker(s).
5. Instruct potential employee(s) as to responsibilities and requirements of the job.
6. Plan for potential promotion.
7. Hire worker(s).
8. Assess employee performance.
9. Establish/document any cause for dismissal.
10. Dismiss employee(s).

## LEARNING ACTIVITIES

1. The student will write a job description which accurately reflects the duties of the worker(s). Specify work hours, working conditions, attitudes, and other characteristics critical for the success of the worker(s). Indicate required education and experience.
2. The student will decide how prospective applicants are to become aware of the position(s).
3. The student will interview prospects and choose the one considered the most satisfactory. (This is a good role-playing activity for your class.)
4. The student will list the character traits most helpful in attaining a job.
5. The student will develop a system for evaluating employee performance on a regular basis.
6. The student will provide employee training as needed.
7. The student will keep documentary records of unsatisfactory performance which might lead to dismissal. Discuss these with the employee, but also point out his/her good performance activities.

## RESOURCES

Most business and government agencies have well-developed personnel policies. Personnel directors would be able to provide job descriptions and sample policies which could guide students working on this task.

## TOOLS AND EQUIPMENT

Agriculture Bulletins
Complete Farm Management Information Resource
Current periodicals
Farm Management Service Publications
Government Regulations Publications (Federal Register)

## EVALUATION

Given the following hypothetical situation, the student will complete Activities 1-4.

Your are the owner of an 800-acre farm with a beef cattle herd of 120 Angus cows and a 60,000 layer operation. The other crops and livestock are planned to enhance these two enterprises. You are in the labor market for a farm manager and someone to do most of the work necessary for the layer operation.

1. Write a job description of these two positions. Include all the pertinent information that will help find the right persons for the jobs.
2. Make plans for contacting and interviewing prospective applicants.
3. Form teams in the classroom and interview each other for these jobs.
4. With these teams formulate an outline to be used in interviewing incompetent workers and in firing and replacing them. Follow through on this with the team role playing.

**DUTY:** MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Establish and record pay scale and benefits for workers

## PERFORMANCE OBJECTIVE

Given access to employee wage, hour and tax information, potential benefits for workers, and the tools/equipment listed below, establish pay scale and benefits for workers. Instructor must be satisfied that the developed pay scale and benefits assure competitive compensation for retention of qualified employees. (1)

## PERFORMANCE GUIDES

1. Assess worker's background and experience.
2. Establish wage incentives.
3. Establish and record base pay.
4. Establish fringe benefits.
5. Establish and record dollar value of fringe benefits.
6. Establish and record tax advantages of fringe benefits.

## LEARNING ACTIVITIES

1. The student will determine regulations affecting pay and other benefits for farm workers.
2. The student will survey local farmers and summarize findings regarding the following:
   a. Wages paid
   b. Hours worked
   c. Liability insurance coverage
   d. Arrangements for workmen's compensation
   e. Differential pay for better employees
   f. Incentive pay for superior achievement
   g. Health insurance provided
   h. Sick leave
   i. Paid vacations
   j. Other benefits--garden, housing, etc.
3. The student will establish a system of employee benefits and a pay scale for workers to be employed on the farm.
4. Develop a computer program for pay scale and benefits.

## RESOURCES

**Farmer's Tax Guide,** local Social Security Office

South Carolina Department of Labor, 3600 Forest Drive, P.O. Box 11329, Columbia SC (803) 758-5030

**Modern Agricultural Management,** p. 330

**Doane's Agricultural Reports,** pp. 519, 523, 525, 556.7, 557, 569, 491-496

**Farm Business Management,** pp. 283-305

## TOOLS AND EQUIPMENT

Current periodicals and magazines that provide help wanted/position desired ads
Farmer's Tax Guide
Farm Management Information Resource
Farm Management Service Publications
Microcomputer

## EVALUATION

1. The student will summarize the factors which influence the pay scale of farm labor.
2. Given the following hypothetical situation, the student will complete Activities a-d. The primary enterprise on an 800-acre farm is a 125 dairy cow herd. It employs two full-time laborers and other seasonal help. After making a survey of other farms in the community, plan the following programs.
    a. A wage scale for the needed labor
    b. Social security and workman's compensation to be paid
    c. Other benefits such as pay increase incentives, vacations, sick leave, housing, etc.
    d. Insurance needed
3. The student will compile a form for keeping labor pay records.

V-TECS 12

**DUTY:** MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Train workers using a demonstration performance method

## PERFORMANCE OBJECTIVE

Given the description of a worker's background and experience, itemized training required, and the tools/equipment listed below, train the worker. Upon completion, the worker must be able to perform each task assigned to the minimum competence specified. (1)

## PERFORMANCE GUIDES

1. Assess worker's background and experience.
2. Select task for which skill is lacking.
3. Demonstrate the task.
4. Have worker demonstrate same task.
5. Evaluate worker's performance.
6. Retrain where needed.
7. Repeat procedure for remainder of tasks.

## LEARNING ACTIVITIES

1. The student will construct a scorecard for evaluating a demonstration.
2. The student will work out a step-by-step demonstration for teaching how to do a certain job.

## RESOURCES

**Modern Agricultural Management**, pp. 169-171
**Labor Management on the Farm**, Pub No. 12
Department of Agriculture Education, **Critique Form--Demonstrating a Manipulative Skill**

## TOOLS AND EQUIPMENT

Agriculture bulletins
Complete Farm Management Information Resource
Current Agriculture Periodicals and Magazines
Farmer's Tax Guide
Farm Management Informational Resource
Farm Management Service Publications

## EVALUATION

1. The student will make a list of the objectives sought in managing farm labor.
2. The student will select a farm job (examples, prunning a fruit tree or operating a certain machine) and prepare a detailed plan for teaching this particular job by the demonstration method. The student will work with another member of the class to demonstrate the procedure in doing the job. This demonstration should accomplish the objectives listed above.
3. The student will have the instructor or the class evaluate the demonstration. Modify or improve the procedure as needed.

V-TECS 13

## DUTY: MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Develop employee work schedules

### PERFORMANCE OBJECTIVE

Given the amount and ability of available labor, labor timetable, tax assignment, supervision plan, and the tools/equipment listed below, develop employee work schedules. Instructor must be satisfied that the work schedule provides the labor and time allotment for proper task performance. (1)

### PERFORMANCE GUIDES

1. Assess amount and ability of available labor.
2. Assess times and season for work assignments.
    a. Miking
    b. Crop planning/harvesting
    c. Holidays, vacations, etc.
    d. Unplanned absences (emergencies, etc.)
3. Assess minimum and maximum labor needs.
4. Assign responsibility for work tasks.
5. Complete employee work schedules.

### LEARNING ACTIVITIES

1. The student will study the plan for labor needs (V-TECS Task 9).
2. The student will list specialized abilities of available laborers.
3. The student will schedule work assignments for each worker for each month. Allow flexibility. Consider federal regulations affecting young workers in hazardous occupations.
4. Write a computer program to schedule work.

### RESOURCES

**Labor Management on the Farm, Pub. No. 12**
**Farm Business Management, pp. 301-305**

### TOOLS AND EQUIPMENT

Work Record Book
Microcomputer

### EVALUATION

Given the following hypothetical situation, the student will complete Activities 1-3. A 500-acre farm has the following enterprises:

140 beef cows
100 acres corn
60 acres sorghum grain
60 acres small grain
80 acres soybeans
180 acres pasture and hay

The farm family consists of a mother, father, and a 16-year old son.

1. The student will make a schedule of the labor needed on this farm, estimating the work hours needed per month.
2. The student will schedule the family labor available. Do not schedule more than 10 hours per day per person.
3. The student will prepare a schedule for the additional labor needed, including the jobs to be done and the scheduled time.

**DUTY:** MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Contract for custom service

## PERFORMANCE OBJECTIVE

Given a need for custom services, comparative analysis, legal opinions, and the tools/equipment listed below, contract for custom service. Instructor must approve the operation quality and economic judgment of the custom service contract. (1)

## PERFORMANCE GUIDES

1. Determine custom service required.
2. Budget for the custom service.
3. Select custom service operator with desired tools/equipment.
4. Negotiate details of agreement/contract.
5. Retain legal advisor.
6. Contract for custom service and arrange for payment at time of service.

## LEARNING ACTIVITIES

1. The student will obtain data on the usual charges for the custom services he/she may require from the bulletin **Custom Work Farms in South Carolina**, 1977. (Consider increases in charges due to inflation since the data was compiled.)
   a. Obtain the customary charges for contracted services from a local farmer who hires custom services.
   b. Contact one or more custom operators for information on charges for custom services.
3. If the services to be employed involve soil or water conservation practices, the student will discuss with the district Soil Conservation Service the customary charges, available contractors, and contract details.
4. If the services to be employed involve the harvesting of pulpwood or timber, the student will contact a forester from the State Commission of Forestry or the State Extension Forester for names of buyers or contractors, standard contract forms, etc.
5. The student will use partial budgeting to determine the economic feasibility of custom hire rather than performing the job with farm labor.

6. Write a break-even custom service vs. owning equipment computer program.

RESOURCES

**Custom Work on Farms in South Carolina,** 1977
Local farmers utilizing custom services
Custom operators in the area
District Soil Conservation Service (SCS) employees
State Commission of Forestry or State Extension Forester
**Farm Management Handbook,** Chapter 16
**Doane's Agricultural Report,** pp. 547, 303-304
**Financial Planning in Agriculture, Teacher's Manual,** pp. 129-133

TOOLS AND EQUIPMENT

Break-Even Analysis
Budgeting Bulletins
Calculator
State Custom Rate Guides
Microcomputer

EVALUATION

1. The student will define the following terms:
    a. Custom work
    b. Partial budgeting
    c. Profitability analysis
    d. Financial analysis
2. The student will make a list of farm jobs that by their nature might be done by custom work.
3. The student will list the advantages and disadvantages of using custom work.
4. The student will write and run a program on break-even acreage.

**DUTY:** MANAGING AND SUPERVISING THE LABOR SUPPLY

**TASK:** Prepare farm payroll records

## PERFORMANCE OBJECTIVE

Given access to gross wages, withholding items, net wages, payroll rules and regulations, and the tools/equipment listed below, prepare farm payroll records. Instructor must be satisfied that records are in compliance with government rules and regulations.

## PERFORMANCE GUIDES

1. Record gross wages.
2. Record items withheld by employer.
3. Record items paid by employer.
4. Record net wages.
5. Record deposits made to Social Security, Federal Income Tax, State Income Tax, Workmen's Compensation, Profit Sharing Plans, etc.
6. Record and prepare detailed statement for employer, employee, and government agencies.

## LEARNING ACTIVITIES

1. The student will list the factors to consider when preparing the farm payroll.
2. The student will review available record forms to see if they provide all the necessary information and records needed.
3. The student will draw up a form for keeping individual labor records. (Be sure to include space for social security and income tax records.)
4. The student will list the steps in preparing to pay the farm employees.
5. The student will write a computer program of individual labor records.

## RESOURCES

South Carolina Farm Record Book, pp. 46-47
Swine Enterprise Account Book

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Management Information Resource
Income Tax Guides
Payroll forms (Social Security, Federal Income Tax, State Income Tax, Workmen's Compensation, Profit Sharing Plans, etc.)
Payroll/tax literature with rules and regulations outlined
Record Books
Microcomputer

## EVALUATION

1. Without using a text or reference, the student will list the items that should be included in the farm payroll records.
2. The student will prepare a payroll records form that includes the above list.
3. The student will prepare a time schedule for entering and maintaining the farm payroll records.
4. The student will run a computer program of payroll records.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Prepare land use plan (field layouts, rotations, etc.)

## PERFORMANCE OBJECTIVE

Given access to alternatives for crop production, crop selection, and tools/equipment listed below, prepare land use plan. Instructor must confirm that land use plan meets required conservation standards (soil conservation service), and has suitable crop selection and crop rotation to maximize production for the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Obtain soil conservation service map and determine the following:
    a. Soil capabilities
    b. Soil limitations
    c. Conservation requirements
    d. Cash crop production
    e. Livestock feed production
2. Assess soil capabilities and requirements.
3. Select the crops to be grown.
4. Establish field layout and crop rotation plan.

## LEARNING ACTIVITIES

1. The student will draw to scale a large map of the farm. Indicate outstanding physical features such as roads, fences, ponds, terraces, stabalized waterways, etc.
2. The student will draw in the boundaries for each soil type.
3. The student will label each area as to the most intensive land use that can be maintained indefinitely.
4. The student will determine land treatments that will be required to sustain profitable production. Identify these on the map or by keying them to a separate sheet.
5. The student will arrange the field layout and plan the crop rotation.

## RESOURCES

**Soil Classification and Land Treatment**
**Farm Management Handbook**, pp. 400-404
Soil Survey of ___________ County (SCS)
**Doane's Agricultural Report**, pp. 107-110
**Farm Business Management**, pp. 95-102

## TOOLS AND EQUIPMENT

Agriculture Stabilization Conservation Service Plan
Crop Record Book
Soil Conservation Map
Soil Conservation Plan

## EVALUATION

1. The student will define the following terms:
   a. Soil classification
   b. Land capability class
   c. Strip cropping
   d. Field layout
   e. Conservation farm plan
   f. Topography
   g. Crop rotation
2. The student will compile a list of the most important soil conservation practices needed to maintain soil fertility in his/her community.
3. The student will explain how each of the following might influence the land use plan.
   a. Crop and livestock enterprises
   b. Size of farm
   c. Labor available
   d. Topography
   e. Land capability class

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Prepare plan for cropping program (types, varieties, amounts, etc.)

## PERFORMANCE OBJECTIVE

Given productive capability of available land, list of potential crops, and the tools/equipment listed below, prepare plan for cropping program. Instructor must confirm that cropping plan is workable and economically feasible for the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess productive capability of available land.
2. Select crops that could be grown.
3. Prepare budget for each of these crops.
   a. List all costs.
   b. Project income from crops.
4. Compare crop budgets.
5. Select crop or crops to be grown.
6. Prepare list of the amount of all seed, fertilizer, chemical, and equipment needs for selected crops.
7. Assess credit needs for selected crops.
8. Prepare plan for cropping program.

## LEARNING ACTIVITIES

1. The student will determine productive capability of his/her land or for a farm in the community. Take soil samples and send them to the County Extension Office for analysis. (This activity should be done well ahead of the remainder of this task.)
2. The student will select crops that can be grown successfully on the farm.
3. The student will prepare a budget for growing the different crops.
4. The student will compare budgets and choose the crops to be grown.
5. The student will prepare a plan for the cropping program including the following:
   a. Seed, fertilizer, chemicals
   b. Fuel
   c. Machinery and equipment
   d. Operating capital
   e. Labor distribution
6. The student will evaluate the cropping program. Suggest changes to increase farm income to meet family living requirements.

## RESOURCES

Soil sample boxes and instruction sheets
**Costs and Returns Per Acre** (separate sheets for various crops)
References providing approved practices and varieties for the selected crops
**Doane's Agricultural Report**, pp. 63-64, 113-120, 137-138, entire 100 Section, 543-544

## TOOLS AND EQUIPMENT

Calculator
Crops/Budget Comparison Analysis
Department of Agriculture Crop and Livestock Handbook
Farm Equipment Catalogs
Farm Supply Catalogs
Paper
Pencil
Production Marketing Publications

## EVALUATION

1. Without using references, the student will list factors that will help determine the cropping system for any farm.
2. From knowledge of the agriculture in the community, the student will make a list of the most common crops grown in the area.
3. Using information found in Extension Agriculture Economics Builetin, **Costs and Returns Per Acre**, the student will evaluate these crops for use in the area. The main criteria should be soil conservation, labor, capital, available equipment, and estimated net income.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop budgets for changing crop program

## PERFORMANCE OBJECTIVE

Provided crop enterprise description, past crop and financial records, and the tools/equipment listed below, develop budget for changing the crop program. Instructor must confirm that comparisons justify changes in the crop program and that the budget includes resources and anticipated expenditures of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Study crop budgeting techniques.
    a. Cash crop
    b. Livestock
2. Select appropriate crop program.
3. Compute variable costs, fixed costs, and returns.
4. Develop budget for changing crop program.
5. Plan evaluation during growing season.

## LEARNING ACTIVITIES

1. The student will list at least three factors that might result in a need for changing crop programs on a farm.
2. The student will accumulate information giving the approximate cost and income of the different crops produced on a farm.
3. The student will review information from bulletins that give the average cost and income from these and other crops grown in South Carolina. These bulletins are available from Clemson University Extension Service.
4. The student will review the process of making "partial" budgets.
5. With the above information the student will prepare a budget:
    a. Giving recommended changes in the home farm crop enterprises; or
    b. Giving cropping changes recommended for a simulated farm provided by the instructor.

## RESOURCES

**Modern Agricultural Management**, pp. 145-155, 181-183, 195-209
**Costs and Returns Per Acre** (separate sheets for various crops)
**Doane's Agricultural Report**, pp. 63-64, 547-548
**Financial Planning in Agriculture, Teacher's Manual**, pp. 125-133

## TOOLS AND EQUIPMENT

Calculator
Crop/Budget Agricuture Publications
Past Crop and Financial Records
Planning Prices

## EVALUATION

1. The student will compile a list of factors that may help determine the need for changes in the crop system on the farm.
2. The student will outline a procedure to use in making these needed changes.
3. The student will explain and illustrate the use of "partial budgets" in planning changes in the cropping system.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Prepare inventory of harvested crops

## PERFORMANCE OBJECTIVE

Given crop storage units and the tools/equipment listed below, prepare inventory of harvested crops. Instructor must confirm that completed inventory is in agreement with marketing and harvesting records. (1)

## PERFORMANCE GUIDES

1. Select method of yield measurement.
2. Select method of yield testing.
3. Calculate yield.
4. Measure available storage units.
5. Calculate present content of storage units.
6. Determine the dollar value.
7. Record the inventory (physical and dollar value).

## LEARNING ACTIVITIES

1. The student will prepare an inventory form for recording the quantity, price, and dollar value of each item of stored crops.
2. The student will:
   a. Obtain the market price for crops to be inventoried.
   b. Calculate delivery or hauling costs for each inventoried crop since the farm inventory is based on price at the farm (the market price less delivery and marketing costs). Your delivery costs might vary, however.
3. The student will inventory the crops on a farm.

## RESOURCES

**South Carolina Farm Record Book**, p. 40
Daily newspaper crop reports
Local feed, grain, and seed dealers
**Custom Work on Farms in South Carolina**, Bulletin 615, 1977, p. 33
**Farm Management Handbook**, pp. 491-500
**Doane's Agricultural Report**, pp. 327-328

## TOOLS AND EQUIPMENT

Calculator
Inventory and Crop Record Forms
Measuring tape
Price List
Tables for Estimating Physical Amounts of Crop in Storage

## EVALUATION

1. The student will explain the value of keeping an inventory of harvested crops on the farm.
2. The student will compile a list of the information that should be included in an inventory of harvested crops.
3. The student will prepare a form that includes the above factors for making an inventory of the harvested crops on a farm.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Enroll in Agricultural Stabilization Conservation Service (ASCS) Program

## PERFORMANCE OBJECTIVE

Provided with specific requirements for participation, benefits and costs of participation, tax implications, and tools/equipment listed below, enroll in an Agricultural Stabilization Conservation Service (ASCS) Program. The instructor must be shown that the decision of participation or non-participation is most advantageous to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review the Agriculture Stablization Conservation Service (ASCS) Program for the current year.
2. Obtain specific program requirements from the ASCS office.
3. Identify payments and total benefits of the program as they relate to the farm enterprise on an annual basis.
4. Identify offsetting gains.
5. Review tax implications.
6. Obtain membership to the Agricultural Stabilization Conservation Service Program.

## LEARNING ACTIVITIES

1. The student will obtain from the local District Agricultural stabilization Conservation Service (ASCS) Office a copy of the current ASCS program and specific program requirements.
2. Utilizing the farm land use plan, as prepared in V-TECS Task 16, the student will list the land use changes and/or the cost sharing enterprises which may be used.
3. The student will discuss with an ASCS official the program practices for which he/she may qualify and from which he/she may benefit.

## RESOURCES

County Agricultural Stabilization Service (ASCS) office personnel
Farm Land Use Plan

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Management Information Resource
Newspapers
Radio
Telephone
Television

## EVALUATION

1. The student will compile a list of the available programs or benefits that may be obtained through the Agricultural Stabilization Conservation Service. Also list any disadvantages that might occur by affiliating with this agency.
2. The student will outline the procedure for enrolling in programs or benefits with the ASCS.
3. The student will evaluate the ASCS programs that are available for his/her farm.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Enroll in and review Soil Conservation Service (SCS) practices

## PERFORMANCE OBJECTIVE

Given an economic impact study, cost sharing information, and the tools/equipment listed below, enroll in and review Soil Conservation Service (SCS) practices. Instructor must confirm that the practices to be adopted will conserve resources of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Contact Soil Conservation Service.
2. Join Soil Conservation District.
3. Request Soil Conservation Plan.
4. Determine economic impact of Plan.
5. Contact ASCS for cost sharing for certain practices.
6. Obtain Soil Conservation Service membership.
7. Arrange for services (annual).

## LEARNING ACTIVITIES

1. The student will observe a classroom demonstration by the U.S. Soil Conservation Service (available in each county) on soil conservation practices.
2. The student will review a soil conservation farm map and plan.
3. The student will list the Soil Conservation Land Capability classes in South Carolina, reviewing the conservation practices that should be observed in each class.
4. The student will procure a conservation map and set of conservation plans for his/her home farm (available from the U. S. Soil Conservation Service).

## RESOURCES

U.S. Soil Conservation Service Personnel
USDA Soil Conservation Service, Soil Survey of __________ County (available for each county)
Soil Classification and Treatment

## TOOLS AND EQUIPMENT

Budget Information
Crop Plan
Field and Soil Map
Livestock Plan
Soil Conservation Information
Soil Conservation Plan

## EVALUATION

1. The student will compile a list of services available to the farmer from the Soil Conservation Service.
2. The student will explain the provisions of a soil conservation plan for the farm.
3. The student will list the land capability classes, giving the most important hazards, the best land use, and the recommended soil conservation practices for each class.
4. The student will list the necessary steps in obtaining the aid of the Soil Conservation Service.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Contract for custom crop production/harvesting services

## PERFORMANCE OBJECTIVE

Given the need for services, availability of services, and the tools/equipment listed below, contract for custom crop production/harvesting services. Instructor must be satisfied that contract meets the needs of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess needed services.
2. Assess availability of needed services.
3. Assess reliability of providers of services.
4. Compare prices and amounts of services offered.
5. Select provider of services.
6. Obtain contract for services.

## LEARNING ACTIVITIES

1. The student will list 8 advantages and 5 disadvantages of hiring custom crop production/harvesting services (**Custom Work on Farms**, p. 2).
2. The student will determine the types of these services available in his/her community.
3. The student will figure costs of various crop production harvesting services for the crops produced on his/her farm or a case farm (**Custom Work on Farms**, pp. 7-36; adjust for inflation).
4. The student will construct a set of guidelines to help the reliability of custom operators.
5. The student will select custom operators for the services needed.
6. The student will contract for the services.

## RESOURCES

**Custom Work on Farms in South Carolina**
Local farmers that have utilized custom services
Local custom operators
**Doane's Agricultural Report**, pp. 303-304

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Management Information Resource

## EVALUATION

1. The student will list the factors that would determine the feasibility of using custom work for crop production or harvesting.
2. Without the use of references, the student will list 6 advantages and 4 disadvantages of hiring custom work for crop production or harvesting.
3. Without the use of references, the student will list the factors that he/she thinks would help determine the reliability of custom operators.
4. The student will prepare a contract that would be fair to both farmer and custom contractor for custom harvesting 80 acres of soybeans.

DUTY: MANAGING THE CROP PROGRAM

TASK: Contract out to perform custom crop services for others

## PERFORMANCE OBJECTIVE

Given cost and economic analysis of custom crop service, and the tools/equipment listed below, contract out to perform custom crop services. Instructor must be shown that such service provides adequate income/benefits to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Itemize equipment needs.
2. List purchase cost for each piece of equipment minus salvage value.
3. Work out economic analysis (on an acre or time basis).
    a. Useable life period of each piece of equipment
    b. Investment cost
    c. Interest charged on money invested
    d. Total equipment cost
    e. Charge for labor furnished
    f. Supplies furnished
    g. Road travel costs
    h. Repair and maintenance costs
    i. Insurance protection (liability, accident, and casualty)
    4. Select feasible contractual terms.
        a. Provision for collection and/or credit policy
5. Obtain contract to perform custom crop services.

## LEARNING ACTIVITIES

1. The student will make a survey of the need for custom work in his/her community including the kinds of work, and the type and size of equipment needed to do the work.
2. The student will determine the cost per unit (day, hour, bushel, acre) of operating the above equipment.
3. The student will determine the value and condition of available equipment, and the purchase price of those pieces which have to be purchased.
4. The student will list 6 factors that should be considered before deciding to do custom work.
5. With the above information, the student will determine the price per unit he/she would need to charge for each kind of custom work.
6. The student will contact farmers in the community to see if the work would be available at the price determined in Learning Activity 5.
7. The student will list the factors that should be included in an agreement or contract to do custom work.
8. The student will write up a sample contract.

## RESOURCES

**Suggested Farm Machinery Ownership and Operating Costs for Selected Farm Machinery in South Carolina for Spring and Summer,** 1980

**Custom Work on Farms in South Carolina,** 1977 (adjust for inflation)

Farmers in the community

Farm machinery sales places

## TOOLS AND EQUIPMENT

Adding machine
Budgeting forms
Calculator
Equipment Depreciation Schedules
Interest Rates (Lending Services)

## EVALUATION

1. The student will summarize the factors or conditions that would determine the feasibility of doing custom work.
2. The student will evaluate the importance of different kinds of insurance when doing custom work.
3. The student will draw up two contracts for custom harvesting 200 acres of small grain; one for cash and the other for a share of the produce. These contracts should return a fair profit and also be competitive with other custom operators.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop crop marketing plan

## PERFORMANCE OBJECTIVE

Given the surplus crop or acreage opportunities with the profit potential and the tools/equipment listed below, develop a crop marketing plan. Instructor must agree that plan is feasible and produces maximum profit to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess surplus quantities of crops on the farm.
2. Review potential for more profitable, marketable crop.
3. Review alternative marketing strategies.
   a. Investigate cash crop opportunities.
   b. Consider use of surplus for livestock feed.
4. Develop most advantageous crop marketing plan.

## LEARNING ACTIVITIES

1. The student will explain the purpose of a crop marketing plan.
2. The student will illustrate the importance of timing in crop production and marketing.
3. The student will determine the meaning of hedging and give its advantages and disadvantages.
4. The student will explain the advantages and disadvantages of forward contracting.
5. The student will list the factors that will determine the feasibility of storing crops on the farm before they are marketed.
6. The student will give some advantages of feeding crops to livestock.
7. After considering the above items, the student will develop a marketing plan for the crops to be grown.

## RESOURCES

**Farm Management Handbook**, pp. 336-337
**Corn and Soybean Basis in Selected South Carolina Markets**
**Understanding & Using the Future Market: A Workbook for South Carolina Farmers**
Local farmers
Local buyers of farm crops
**Marketing Highlights** (issued weekly)
**Doane's Agricultural Report**, pp. 47-52, 71-78, 91-94, 351-358.4, 515-516
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-149

## TOOLS AND EQUIPMENT

Agriculture Publications, Crop-Related
Budgeting Information and Materials
Calculator
Complete Farm Management Information Resource
Department of Agriculture Crop and Livestock Information Handbook
Farm Produce Price List

## EVALUATION

1. The student will define these terms:
   a. Marketing plan
   b. Storage of crops
   c. Hedging in marketing of crops
   d. Contract production and marketing of crops
   e. Marketing crops through livestock
   f. Consignment of crops for market
2. Given the following hypothetical situation, the student will complete Activities a and b. The primary enterprises on a 900-acre farm are:
   - 150 head beef cattle
   - 150 acres corn
   - 100 acres soybeans
   - 100 acres small grain (barley, oats)
   - 240 acres pasture and hay
   - Truck crops
     - 70 acres green beans
     - 40 acres tomatoes
     - 40 acres strawberries

   a. Draw up a complete marketing plan for the crops grown on this farm.
   b. Consider alternate marketing plans for these crops when feasible and evaluate the different plans.

DUTY: MANAGING THE CROP PROGRAM

TASK: Purchase crop insurance

## PERFORMANCE OBJECTIVE

Given percentage costs, susceptibility, and the tools/equipment listed below, purchase crop insurance. Instructor must be satisfied that the kind and amount of crop insurance selected is appropriate for the risk involved. (1)

## PERFORMANCE GUIDES

1. Review principles of risk and uncertainty.
2. Assess type of risk involved for the crop.
3. Assess the cost in terms of percentages of crop value.
4. Assess susceptibility of the crop in relation to risk period.
5. Assess financial capability to withstand the risk and degree of loss.
6. Assess sources (sellers) of insurance.
7. Obtain interpretation of insurance coverage.
8. Select insurance agent/company.
9. Select kind and amount of protection desired.
10. Purchase kind and amount of insurance protection desired.

## LEARNING ACTIVITIES

1. The student will survey 10 or more local farmers about their crop insuring practices. Find out acreage of each crop insured, perils covered, source of insurance, and cost.
2. The student will decide upon the amount and kind of risk to cover by crop insurance.
3. The student will shop for the insurance and choose a policy.

## RESOURCES

Local insurance agents selling crop insurance
Informational literature from the insurance companies
Sample policies and claim forms
**Modern Agricultural Management**, pp. 331-332
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-145

## TOOLS AND EQUIPMENT

Hazard Reporting Publications
Protection Insurance Rates Publications
State Statistical Reporting Service Publications
Weather Bureau Publications

## EVALUATION

1. The student will summarize the benefits and coverage expected when a farmer buys crop insurance.
2. The student will list the factors that might limit the amount of crop insurance bought by farmers in your community.
3. The student will evaluate the importance of crop insurance for the follwing types of farms:
    a. Peach grower
    b. Corn and small grain farmer
    c. Truck farmer (beans, cabbage, tomatoes, etc.)

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Apply for collection on insured crops

## PERFORMANCE OBJECTIVE

Provided crop damage and insurance contract for same and the tools/equipment listed below, apply for collection on insured crops. After review of damage report, instructor must confirm that claim describes actual damage.

## PERFORMANCE GUIDES

1. Review damage.
2. Contact insurance agent.
3. Accompany insurance adjustor assessing the damage.
4. Complete required insurance forms.
5. Submit required insurance forms for collection.

## LEARNING ACTIVITIES

1. The student will acquire claim forms and directions for completing them from the agency providing the insurance.
2. The student will complete and submit the claim forms as directed.

## RESOURCES

Local insurance agents

## TOOLS AND EQUIPMENT

Calculator
Publications on Loss Compilations (Per Acre)

## EVALUATION

1. The student will define these terms.
    a. Loss compilation
    b. Insurance adjuster
    c. Crop damage
    d. Percent of crop expected
    e. Claim forms
    f. Justifying insurance claim
2. Without the use of references, the student will outline the procedure for collecting crop insurance claims.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop plan for purchase and operation of irrigation system

## PERFORMANCE OBJECTIVE

Given land use and cropping plan, water availability, sources of water, necessary permits, schedule of irrigation needs and maintenance services, and the tools/equipment lised below, develop a plan for purchase and operation of irrigation system. Instructor must agree that plan and purchase will provide economic returns to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review land use plan and cropping plan.
2. Assess water availability.
3. Analyze sources of water.
4. Review feasibility of irrigation systems.
5. Compare feasible alternate irrigation systems.
6. Obtain necessary irrigation permits (Department of Natural Resources).
7. Assess additional labor requirements.
8. Assess financial implications.
9. Complete necessary financing arrangements.
10. Prepare schedule of irrigation needs for each crop.
11. Prepare schedule of irrigation maintenance services.
12. Develop plan for operation of irrigation system.
13. Purchase irrigation system.

## LEARNING ACTIVITIES

1. The student will list factors that should be considered before deciding to install an irrigation system.
2. The student will make a list of everything needed to set up an irrigation system for his/her home farm or for a case farm provided by the instructor.
3. The student will contact 2 or more dealers and compare prices of major items.
4. The student will make a thorogh survey of the source, supply, and availability of water for irrigation.
5. The student will use partial budgets to determine the feasibility of an irrigation system for this farm.
6. The student will prepare a budget for buying and operating an irrigation system on his/her farm (**Modern Agricultural Management**, chart on p. 157).

## RESOURCES

**Modern Agricultural Management**, pp. 156-160
**Planning for an Irrigation System**
**Irrigating Corn and Soybeans in South Carolina**, Circular 598
**Irrigating Your Lawn and Garden**, Circular 580
**Doane's Agricultural Report**, pp. 121-130, 312
**Financial Planning in Agriculture, Teacher's Manual**, pp. 135-139

## TOOLS AND EQUIPMENT

Calculator
Computer Programming Service
Irrigation Guides
Moisture tester

## EVALUATION

1. The student will explain these factors in terms of irrigating farm crops.
    a. Annual rainfall
    b. Soil moisture
    c. Water source
    d. Topography
    e. Cost-income relation
    f. Installation costs
    g. Operation and maintenance cost
    h. Partial budgets
    i. Net returns on irrigation system
    j. Control pivot irrigation
    k. Gravity irrigation
    l. Land shaping
2. The student will illustrate the influence different kinds of cropping systems have on the decision whether or not to use an irrigating system and/or the type to use.
3. The student will outline in step by step form the procedure to follow in purchasing and installing an irrigation system.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop plan for fertilizer need

## PERFORMANCE OBJECTIVE

Provided a soil sample analysis of available nutrients, cropping plan of the previous and current year, crop nutrient needs, manure application, and tools/equipment listed below, develop a plan for fertilizer needs. Plan must include allowable credits from previous crop, organic matter release, and air pollution fallout considerations. Instructor must confirm that the fertilization plan is correct and economically justified for maximum profit under typical conditions of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review cropping plan of previous and current years.
2. Obtain analysis of soil samples.
3. Analyze crop nutrient needs.
4. Analyze yield goals.
5. Assess fertilizer needs.
6. Evaluate fertilizer cost as it relates to yields.
7. Develop plan for fertilizer needs.

## LEARNING ACTIVITIES

1. Using input/output data such as that found in textbooks and local prices for fertilizer and corn, the student will compute the maximum profit point (**Modern Agricultural Management**, pp. 21-27, use data in Exhibit 2-1; or **Farm Management Handbook**, pp. 62-66, use data from Table 5-1).
2. The student will assume a significant change occurred in price for either the corn or fertilizer and again find the maximum profit point.
3. The student will give a written explanation as to why it is impossible for farmers to determine the precise point of maximum profit for adding fertilizer to crops.
4. Using the opportunity cost concept (based on the equi-marginal returns principle), the student will determine the most profitable use of $400 for fertilizing corn, hay or oats from Table 5-4 (**Farm Management Handbook**, pp. 66-69). Also try $500 and $800. Why not $1600?

5. The student will choose the most profitable use of $200, $600, $800, $1000, and $3000 from Exhibit 2-5 (**Modern Agricultural Management**, pp. 27-29). If only $1000 is available, the student will figure the opportunity cost of investing all of it in barley production or Government bonds.
6. Assuming that returns to dollars spent for fertilizer are higher than returns to other uses of dollars on the farm (in other words the opportunity cost for the last $100 spent for recommended applications of fertilizer is less than $100), the student will detail a fertilizer plan for the cropping program for next year. Using soil test recommendations, he/she will prepare a table including field letters from the land use plan, crops to be grown, acreages, kinds of fertilizer, amounts, time and method of application, and cost for each field. Summarize for the farm.

## RESOURCES

**Modern Agricultural Management**, pp. 21-29
**Farm Management Handbook**, pp. 66-69
Soil test results
Land use plan for the farm
**Doane's Agricultural Report**, pp. 145-162

## TOOLS AND EQUIPMENT

Diagnostic Lab Tests
Fertilizer/Agriculture Publications
Fertilizer Price Lists

## EVALUATION

1. Without the aid of references, the student will list at least 10 factors to consider in developing a fertilization plan. These factors will be in agreement with those presented by the teacher.
2. Without the aid of references, the student will list at least 6 steps in the process of developing a fertilizer plan. These steps will be in agreement with those presented by the teacher.
3. When given a list of relevant terminology and a list of random definitions of such terms, the student will match the 2 lists.

4. Given the following hypothetical situation, the student will complete the activities. On a 100-acre row crop farm, 50 acres are planted to corn and 50 acres to soybeans. Of the soybean acres, 25 are double cropped with wheat each year. Crops are rotated each year. Using the process steps, factors to consider, and terminology listed above, develop a fertilizer plan for the farm.

V-TECS 29

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop plan for pesticide need

## PERFORMANCE OBJECTIVE

Given current cropping plans, current crop pest information, current pesticide information, availability and cost of materials and/or contract for custom application, and the tools/equipment listed below, develop a plan for pesticide need. Instructor must confirm that the plan will provide needed control with minimum environmental damage. (1)

## PERFORMANCE GUIDES

1. Review cropping plan for current year.
2. Assess need for pesticides.
3. Assess costs of pesticide application.
4. Compare self-application to contract application (costs, time, efficiency, etc.).
5. Contact suppliers for price, availability, quality, and quantity.
6. Develop plan for pesticide need.

## LEARNING ACTIVITIES

1. The student will compute the typical cost per acre of pesticides for the crops included in the cropping plan.
2. The student will list some cost control measures available to the manager.
3. Comparing custom hire vs. self-application, the student will use partial budgeting to test the feasibility of purchasing the required application equipment (**Farm Management Handbook**, pp. 152-155).
4. The student will prepare a plan for pesticide application for the cropping plan as follows: indicate field letter(s), crops(s), and pesticide(s); time and method of application; amount of pesticide; and cost for each crop. Then summarize for the farm including the quantity and cost of each pesticide required.

## RESOURCES

**Modern Agricultural Management**, pp. 152-155
**Farm Management Handbook**, Chap. 16
**Costs and Returns Per Acre** (for crops included in the cropping plan)
**Doane's Agricultural Report**, pp. 152, 162.1 - 166.2, 169, 187
**Agricultural Chemicals Handbook**

## TOOLS AND EQUIPMENT

Calculator
Current media and publications (pesticide information)
Records for previous crop year

## EVALUATION

1. Without the aid of references, the student will list at least 6 factors to consider when developing a pesticides need plan. Those listed will be in agreement with the following factors:
    - a. Safety
    - b. Types of insects to be controlled
    - c. Crops to be treated
    - d. Insecticides needed
        - (1) Sources of insect identification
        - (2) Sources of insect control recommendation
        - (3) Forms of insecticides, e.g., wettable powder, liquid, pellets, etc.
    - e. Application equipment required
    - f. Economics of self-application versus contract pest control
    - g. Method of application
        - (1) Spraying
        - (2) Dusting
        - (3) Gas
    - h. Timing of application
2. Without the aid of references, the student will list at least 6 steps in the process of developing a pesticides need plan. Those listed will agree with the Performance Guides.
3. Given a 100-acre row crop farm planting 25 acres to cotton, 50 acres to corn, and 25 acres to peanuts, the student will develop a pesticide need program utilizing the factors and steps referred to in Nos. 1 and 2.

**DUTY:** MANAGING THE CROP PROGRAM

**TASK:** Develop plan for seed/plant needs

## PERFORMANCE OBJECTIVE

Provided cropping plans, price and availability of seeds/plants, and the tools/equipment listed below, develop plan for seed/plant needs. Instructor must be satisfied that crop selection, variety selection, and planting rate plans agree with current conditions and the seed/plant needs of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review cropping plans for current year.
2. Assess quantity and variety of seed/plant needs.
3. Obtain comparison yield trail results.
4. Contact suppliers for price, availability, quantity, and quality of seeds and plants.
5. Develop plan for seed/plant needs.

## LEARNING ACTIVITIES

1. The student will define these terms.
   a. Seed certification
   b. Germination test
2. The student will list available sources of seed and plants.
3. The student will list factors that should be considered when selecting a source of seed and plants.
4. The student will compare and chart availability, quality, and prices of seed and plants from two or more local sources.
5. The student will determine typical seed costs for crops to be grown from **Costs and Returns Per Acre** sheets as provided.
6. With the above information and the home farm cropping plants, the student will develop a plan for obtaining the seed and plants needed.

## RESOURCES

**Spring and Fall Planting Guide** (revised each year)
**Selected Vegetable Budgets**, 1980
**Corn Production Guide for South Carolina**, 1980 (revised yearly)
**Performance of Field Crop Varieties in South Carolina**
Local seed stores
Catalogues from seed companies
**Costs and Returns Per Acre** (separate sheets for various crops)

## TOOLS AND EQUIPMENT

Appropriate Seed/Plant Agriculture Publications
Calculator
Crop Record Book

## EVALUATION

1. Without the aid of references, the student will list at least five factors to be considered when planning for seed/plant needs. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Seed/plant requirements of crops to be planted
   b. Seed/plant sources
   c. Seed/plant quality
      (1) Certification
      (2) Weed free
      (3) Disease free
      (4) Germination tested
      (5) . . .
   d. Seed/plant quantity
   e. Costs
   f. Planting dates
2. Without the aid of references, the student will list at least two references which provide the quality and quantity of seed/plants needed for a given crop. Such references will be in agreement with those presented by the teacher.
3. Without the aid of references, the student will list at least five steps in the process of developing a plan for seed/plant needs. The steps listed will be in agreement with those listed under Performance Guides.
4. Given a planting need for 50 acres of silage corn, 10 acres of grain sorghum, and 5 acres of tobacco, the student will develop a detailed seed plan. Include all steps, factors, and references utilized in Nos. 1, 2, and 3.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Develop livestock program plan (selection of types, breeds, grades, numbers, etc.)

## PERFORMANCE OBJECTIVE

Given the farm's crop acres and yield ability, inventory of facilities, labor and equipment, and the tools/equipment listed below, develop a livestock program plan. Instructor must confirm that the livestock program plan meets feed needs and facility requirements and is appropriate to available labor of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review zoning laws.
2. Assess prevailing climate.
3. Assess amount of feed available.
4. Assess available facilities.
5. Assess available equipment.
6. Assess available labor.
7. Develop livestock program plan.

## LEARNING ACTIVITIES

1. Considering available resources and the need for family income, the student will determine which livestock enterprises should be selected for this farm.
2. The student will write a detailed plan for the livestock enterprises to be conducted including the scope and system of production (beef cow/calf, feeder pig production, etc.).
3. The student will complete a summary for the livestock system he/she chooses.
4. The student will prepare an evaluation of the plan considering the available resources to support the livestock program. The following headings will be used: buildings, fences and other facilities, livestock equipment, labor (consider seasonal distribution), feed supply, and capital. The student will indicate how existing deficiencies will be corrected.

## RESOURCES

**Costs and Returns Per Unit**, (separate sheets for each system of livestock production)

**Modern Agricultural Management**, pp. 196, 183-189, 208

**Doane's Agricultural Reports**, pp. 65-70 (entire 200 Section), 209, 211, 213, 527-528, 544

Land use map for the farm (SCS)
Plan for the Cropping System (V-TECS Task 19)
"Summary: Livestock System" (prepare blank forms from p. 208, **Modern Agricultural Management**)

## TOOLS AND EQUIPMENT

Budget
Calculator
Computer service
Livestock Enterprise Publications

## EVALUATION

1. Without the aid of references, the student will list at least 3 factors to consider when developing a livestock plan. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Land, labor, capital, housing equipment, feed market, and climatic requirements
    b. Profit potential
    c. Personal knowledge, skills, likes, dislikes
    d. Family goals--need for income
2. Without the aid of references, the student will list at least 6 factors to consider in operating selected farm enterprises. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Breed selection
    b. Breeding program
    c. Feeding program
    d. Management program
    e. Housing program
    f. Equipment program
    g. Labor program
3. Without the aid of references, the student will list at least 6 steps in the process of developing a livestock program plan. Those listed will agree with the Performance Guides.
4. Given the farm's crop acres and yield ability, inventory of facilities, labor and equipment, and the tools/equipment listed above, the student will develop a livestock program plan. Utilizing answers from Nos. 1, 2, and 3, the student will list factors to be considered in development of a plan, factors to consider in operating selected farm enterprises, and steps to take in the process of developing a livestock program plan.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Develop plan for raising young stock

## PERFORMANCE OBJECTIVE

Given costs and possible returns, and the tools/equipment listed below, develop a plan for raising young stock. Instructor must agree that plan will provide young stock with known genetic values, control of rearing program, reduced danger of disease and parasite control, and establish costs of replacements. (1)

## PERFORMANCE GUIDES

1. Assess need for young stock.
2. Assess housing, feeding, and equipment needs.
3. Assess personnel available for care.
4. Develop variable and fixed costs.
5. Assess possible returns.
6. Develop plan for raising young stock.

## LEARNING ACTIVITIES

1. The student will explain the influence that each of the following factors might have on the decision to raise young stock rather than purchase them.
    a. Land
    b. Labor
    c. Capital
    d. Housing
    e. Management
    f. Feed requirements
2. The student will explain the term **calving percentage.**
3. Using an enterprise budget, the student will compare the costs of raising and purchasing breeding stock.
4. The student will explain how the decision is influenced by the quality of breeding stock at home.
5. The student will compute the opportunity cost of using the factors in Learning Activity 1 to raise young stock.

## RESOURCES

**Modern Agricultural Management**, p. 29, Chap. 11
**Farm Management Handbook**, pp. 68, 270-374
**Doane's Agricultural Report**, pp. 256.7, 257, 277
Other references including approved rations and other recommended practices for livestock production

## TOOLS AND EQUIPMENT

Calculator
United States Department of Agriculture Publications (Young Stock)

## EVALUATION

1. Without the aid of references, the student will list at least 5 factors to be considered when planning a program for raising young stock. Those listed will be in agreement with the following factors:
   a. Advantages and disadvantages of raising young stock versus purchasing
   b. Land, labor, capital, housing equipment, and management requirements
   c. Feeding program
      (1) Feeding schedule
      (2) Types of feed required
      (3) Quantity of feed needed
   d. Housing program
      (1) Types of housing
      (2) Size housing
   e. Management practices
      (1) Castration
      (2) Vaccination
      (3) Worming
      (4) Pest control
      (5) Weaning
      (6) Feeding
      (7) Housing
2. Without the aid of references, the student will list at least 6 steps in the process of developing a plan for raising young stock. Those listed will agree with the Performance Guides.
3. Given costs and possible returns for a livestock program and the steps and factors listed in Nos. 1 and 2, the student will develop a plan for raising young stock to provide known genetic values, control of rearing program, reduced danger of disease, parasite control, and establishment of costs of replacement.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Develop budgets for changing the livestock program

## PERFORMANCE OBJECTIVE

Provided with previous financial records, zoning laws, economic feasibility study, and the tools/equipment listed below, develop budget for changing the livestock program. Instructor must be satisfied that the budget reflects a needed change and will benefit the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Review previous years' financial records.
2. Analyze marketing forecasts.
3. Review alternative livestock programs.
4. Review implication of zoning laws.
5. Review economic feasibility and profitability.
   a. Additional housing needs
   b. Additional equipment needs
   c. Additional labor needs
6. Develop budget for changing the livestock program.

## LEARNING ACTIVITIES

1. Given a livestock program, the student will select a change that appears necessary.
2. Given budget data, the student will use partial budgeting to evaluate the change.
3. The student will list considerations other than profit that would influence the decision to change the given program.

## RESOURCES

**Farm Management Handbook**, pp. 277-283
**Modern Agricultural Management**, pp. 152-155
**Costs and Returns Per Unit of Livestock Production**
**Doane's Agricultural Report**, pp. 547-548
**Financial Planning in Agriculture, Teacher's Manual**, pp. 125-130

## TOOLS AND EQUIPMENT

Agriculture Livestock Publications
Budget forms
Calculator
Farm Records

## EVALUATION

1. Without the aid of references, the student will list at least 2 factors to consider in developing budget changes for the livestock program. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. How to estimate profitability and feasibility of alternatives
   b. How to estimate land, labor, capital, housing, equipment, and management requirements of alternatives

2. Without the aid of references, the student will list at least 1 source of estimated profits for selected livestock enterprise units. These sources will be in agreement with those presented by the teacher.
3. Without the aid of references, the student will list at least 6 steps in the process of developing budgets for changing the livestock program. Those listed will agree with the Performance Guides.
4. Given a livestock program in need of change, the student will outline the needed changes, list the factors considered in developing the changes, show the sources of estimated profits for selected livestock enterprise units, and develop the steps in the process of developing budgets for changing the livestock program.
   Factors, steps, and sources utilized should agree with Nos. 1, 2, and 3.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Develop plan for livestock feeding program

## PERFORMANCE OBJECTIVE

Given a livestock component of a farm enterprise and the tools/equipment listed below, develop a plan for a livestock feeding program. Instructor must be satisfied that marketing feed through livestock is profitable and that feed requirements of livestock are correct and available for the livestock feeding program. (1)

## PERFORMANCE GUIDES

1. Assess number of livestock units.
2. Assess length of time needed to carry livestock units.
3. Assess total feed needed.
4. Assess available amounts of feed.
    a. Amount to be purchased
    b. Alternate sources of purchases
5. Develop inventory control mechanism for feed crops.
6. Develop plan for livestock feeding program.

## LEARNING ACTIVITIES

1. The student will apply the substitution principle to find the least cost ration. Using local prices for corn and silage and the data in Exhibit 2-6 (**Modern Agricultural Management**, p. 32), find the least cost combination for 500, 600, and 700 pounds of grain on 460-pound steers.
2. The student will use current local prices for corn and concentrates and data in Table 5-7 (**Farm Management Handbook**, p. 70) to find the least cost combination for producing 100 pounds of pork.
3. The student will use current local prices for corn, wheat, barley, sorghum, and oats and the substitution scale (**Doane's Agricultural Report**, p. 218) to determine the most economical grain for dairy cows, beef cattle, and fattening hogs. Considering maximum replacement % (**Doane's Agricultural Report**, p. 217), what mixture of grain would cost least for each class of livestock?
4. The student will detail a feed plan for the livestock program.
    a. Specify rations for each stage of production of each enterprise.

b. Indicate source, quantity, and cost of each feed item required by each class of livestock per year. Summarize for the farm.

5. The student will compare costs in his/her feed plan with those in **Costs and Returns** budgets. Justify any important differences.
6. The student will list equipment and other facility changes which will be required for storing and handling the feed.

## RESOURCES

**Modern Agricultural Management**, pp. 31-33, 205-209
**Farm Management Handbook**, pp. 69-71
**Doane's Agricultural Report**, pp. 213-234.2, 257-266.4, 281, 282.2
**Costs and Returns Per Unit**

## TOOLS AND EQUIPMENT

Agriculture Livestock Feeding Publications
Budget Guides
Calculator
Record Books

## EVALUATION

1. Without the aid of references, the student will list at least 5 major factors to consider when developing a plan for feeding livestock. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Type of operation
        (1) Beef cattle
            (a) Feeder
            (b) Brood cow
        (2) Poultry
            (a) Broilers
            (b) Layers
            (c) Hatching eggs
        (3) Hogs
    b. Scope of the operation or scale of operation
    c. Source of feed
        (1) Farm produced
        (2) Purchased
    d. Type of feed operation
        (1) Farm mixed
        (2) Farm stored
        (3) Grain purchased or farm grown
        (4) Concentrate formula purchased or self-mixed
        (5) Forage purchased or farm grown

- e. Nutrient requirement and feed formulation for different classes and ages of livestock
    - (1) Swine
        - (a) Brood sows
        - (b) Sows with pigs
        - (c) Young pigs
        - (d) Topping pigs
    - (2) Cattle
        - (a) Brood cows
        - (b) Topping steers
    - (3) Dairy cattle
        - (a) Lactating cows
        - (b) Dry cows
        - (c) Calves
        - (d) Bulls
    - (4) Poultry
        - (a) Broilers
        - (b) Layers
        - (c) Baby chicks
- f. Cost comparison of alternative feeds by nutrient value
- g. Storage requirements
- h. Equipment requirements
- i. Types of feed required
    - (1) Roughage
        - (a) Hay
        - (b) Pasture
        - (c) Silage
    - (2) Grains
        - (a) Corn
        - (b) Small grains
    - (3) Concentrates
- j. Quantity of feed required by type

2. Without the aid of references, the student will list at least 6 steps in the process of developing a livestock feeding program. Those listed will agree with the Performance Guides.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Develop livestock/livestock products marketing plan

## PERFORMANCE OBJECTIVE

Given livestock/livestock products components of farm enterprise and the tools/equipment listed below, develop a livestock/livestock products marketing plan. Instructor must be satisfied that plan will yield the best feasible return to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess marketing strategies.
2. Identify strategies appropriate to farm enterprise.
   a. Cash marketing
   b. Futures marketing
   c. Selling breeding stock, etc.
3. Assess number of livestock to be marketed.
4. Assess livestock products to be marketed.
5. Identify available markets.
6. Identify most profitable market.
   a. Assess capital gains tax alternatives.
7. Assess livestock/livestock products transportation needs.
8. Develop livestock/livestock products marketing plan.

## LEARNING ACTIVITIES

1. The student will list markets available for the livestock products being produced on the farm.
2. The student will prepare a marketing plan for the livestock products produced. For each item indicate the approximate date(s), quantity, selling price per unit, and gross returns for the year. Deduct expected marketing costs and summarize for the farm.
3. The student will evaluate the livestock marketing plan by answering the following discussion questions.
   a. Are marketing costs reasonable?
   b. Have the best available products been utilized?
   c. What provision is included for timing marketing advantageously?
   d. Was capital gains tax advantage considered?

## RESOURCES

**Doane's Agricultural Report**, pp. 445, 471, 511, 77, 81, 83, 85, 244.7
**Weekly Commodity Report**
**Understanding and Using the Future's Market: A Workbook for South Carolina Farmers**
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-149

## TOOLS/EQUIPMENT

Calculator
Livestock Marketing Publications
Livestock Products Marketing Publications
Radio/television
Telephone

## EVALUATION

1. Without the aid of references, the student will list at least 6 factors to consider when developing a livestock/livestock products marketing plan. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Tax implications
    b. Marketing alternatives
        (1) Storage
        (2) Feeding
        (3) Processing
        (4) Hedging
        (5) Contracting
        (6) Cash sales
        (7) Auctions
        (8) Direct sales to packers
    c. Type of products to be marketed
        (1) Livestock
        (2) Livestock products
    d. Marketing costs
        (1) Brokerage fees
        (2) Transportation costs
    e. Timing
        (1) Market cycles
        (2) General economic cycle
    f. Market
        (1) Location
        (2) Volume
2. Without the aid of references, the student will list at least 6 steps in the process of developing a livestock/livestock products marketing plan. Those listed will agree with the Performance Guides.
3. When given a list of relevant terminology and a list of random definitions of such terms, the student will match the two lists.
    Relevant terminology
    a. Hedging
    b. Capital gain
    c. Cyclical

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Market livestock/livestock products

## PERFORMANCE OBJECTIVE

Given a livestock/livestock products component of a farm enterprise and the tools/equipment listed below, market livestock/livestock products. Instructor must agree that methods of marketing livestock/livestock products will produce maximum economic return to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess various marketing alternatives.
2. Determine market goals and objectives.
3. Evaluate markets.
   a. Follow livestock market news.
   b. Study seasonal and cyclical market variations.
   c. Study time and locational market variations.
   d. Study grade market variations.
   e. Study transportation costs of various carriers.
   f. Study hedging and forward contracts.
   g. Study shrinkage factors.
   h. Study "basis" of various markets.
   i. Study market service and commission costs.
   j. Study marketing orders.
4. Calculate production costs.
5. Calculate break-even information.
6. Select marketing method consistent with economic information and goals.
7. Produce for market requirements.
8. Market livestock/livestock products.

## LEARNING ACTIVITIES

1. The student will contact 2 local livestock markets to determine difference in cash price on any given day, various transportation costs, seasonal variations, and alternatives available for discussion in class.
2. The student will contact one additional local livestock market to determine types of marketing programs available and describe those programs in a class presentation.
3. The student will listen to a classroom presentation by a local stock broker on the process of marketing livestock/livestock products.
4. The student will prepare a list of relevant terminology and definitions based on Learning Activity 3.

## RESOURCES

**Doane's Agricultural Report**, pp. 445, 471, 511, 77, 81, 83, 85, 244.7
**Weekly Commodity Report**
**Understanding and Using the Future's Market: A Workbook For South Carolina Farmers**
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-149

## TOOLS AND EQUIPMENT

Calculator
Current Market Quotations and Market History
Livestock Costs and Budgets
Marketing Information

## EVALUATION

1. Without the aid of references, list at least 3 factors to consider when marketing livestock/livestock products. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Price potential of alternative markets, e.g., auctions, storing, etc.
    b. Seasonal and cyclical market variations
    c. Local cash markets
        (1) Price variation
        (2) Transportation costs
            (a) Mechanical
            (b) Shrinkage
            (c) Labor
2. Without the aid of references, the student will list at least 6 steps in the process of marketing livestock/livestock products. Those listed will agree with the Performance Guides.
3. Without the aid of references, the student will list at least 4 types of livestock marketing. Such types will be in agreement with those presented by the teacher.
4. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
    Relevant Terminology
    a. Forward contracts
    b. Futures market
    c. Shrinkage
    d. Commissions
    e. Cyclical
5. Given a livestock/livestock component of a farm enterprise and the references and tools/equipment listed above, the student will develop a livestock/livestock product marketing program to produce maximum economic return to the farm enterprise.
    The marketing program must include at least 3 factors to consider when marketing and utilize at least 6 steps in the process of marketing.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Contract for breeding services

## PERFORMANCE OBJECTIVE

Given a need for breeding services, information about available breeding services, and the tools/equipment listed below, contract for breeding services. Instructor must confirm that contract will provide breeding efficiency, genetic improvement, and lower reproductive diseases in the farm livestock enterprise. (1)

## PERFORMANCE GUIDES

1. Assess need for breeding services.
2. Select required breeding services.
3. Budget for breeding services.
4. Locate competent breeding services.
5. Complete detail of breeding services agreement.

## LEARNING ACTIVITIES

1. The student will contact area livestock producers, extension service livestock specialists, and breed association representatives for names and locations of breeding service firms that do business in the area. Obtain any recommendations they may have in written form.
2. The student will contact the available breeding service for information on costs, services provided, guarantees, availability, and quality of breeding stock and compile the information in a reference notebook.
3. The student will give an oral presentation comparing the recommendations compiled and evaluate the services offered.
4. The student will write a contract with the breeding service judged best able to fulfill the livestock program objectives.
5. The student will outline a simple task analysis of an artificial insemination technician.

## RESOURCES

Area livestock producers
Extension Service Livestock Specialists
Breed Association representative
Breeding Services technicians

Breeding Services literature
Sample breeding service contract forms

## TOOLS AND EQUIPMENT

Listing of Available Breeding Services
Listing of Breeders with Stock for Sale
Sire Summaries

## EVALUATION

1. Without the aid of references, the student will list at least 3 factors to consider when contracting for breeding purposes. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Economics of contracting for breeding services
    b. Alternate available breeding services
    c. Criteria for evaluating alternative breeding services
        (1) Cost
        (2) Services performed
        (3) Guarantee
        (4) Liabilities
        (5) Quality of stock offered by breeding services
        (6) Availability
2. Without the aid of references, the student will list at least 5 steps in the process of contracting for breeding services. Those listed will agree with the Performance Guides.
3. Given a livestock program, the student will describe the factors to be considered and outline the steps to be taken when contracting for breeding services. Factors and steps should conform to standards in Nos. 1 and 2.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Enroll in livestock improvement program

## PERFORMANCE OBJECTIVE

Given the need for a livestock improvement program, information about services available, and the tools/equipment listed below, enroll in a livestock improvement program. Instructor must confirm that improvement program will provide the basis for selection and added profit to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess livestock improvement program needs.
2. Determine availability of livestock improvement program.
3. Select improvement program appropriate to needs.
4. Budget for livestock improvement program.
5. Enroll in livestock improvement program.

## LEARNING ACTIVITIES

1. The student will list the livestock improvement programs available for the classes of livestock being produced on this farm.
2. The student will outline services that are offered in each livestock improvement program.
3. The student will listen to Extension Livestock Specialists talk to class on livestock improvement program.
4. The student will determine costs of participating in the improvement program.
5. The student will determine the amount of time needed to carry out the improvement program.
6. The student will determine the need for an improvement program on a farm.
7. The student will work out budget for a livestock improvement program.
8. The student will enroll in the livestock improvement program.

## RESOURCES

Extension Livestock Specialists, Clemson University
County agent
Local livestock producers

## TOOLS AND EQUIPMENT

Agriculture/Livestock Publications
Listing of Available Livestock Improvement Programs

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when enrolling in a livestock improvement program. Those listed will be in agreement with the following factors:
   a. Services offered
   b. Value of services offered
   c. Cost
   d. Time involved
2. Without the aid of references, the student will list at least 3 steps in the process of enrolling in a livestock improvement program. Those listed will agree with the Performance Guides.
3. Given a livestock program in need of improvement, the student will describe the factors to be considered and outline the steps in the process to implement an improvement program to provide the basis for selection and added profit to the farm enterprise.

**DUTY:** MANAGING THE LIVESTOCK PROGRAM

**TASK:** Purchase livestock insurance

## PERFORMANCE OBJECTIVE

Given the need for livestock insurance, information about available insurance, and the tools/equipment listed below, purchase livestock insurance. Instructor must agree that insurance provides coverage appropriate to the risks of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess livestock insurance needs.
2. Study the concepts of risk and uncertainty.
3. Determine fair market value of livestock.
4. Determine various insurance programs available.
5. Determine true cost of insurance programs.
6. Budget for insurance needs.
7. Select appropriate insurance.
8. Purchase appropriate livestock insurance.

## LEARNING ACTIVITIES

1. The student will survey local insurance vendors to ascertain livestock insurance practices in the local community, find out what quality and kinds of livestock are being protected (whether under a farm owner's or separate policy), and how much the insurance costs.
2. The student will decide what to do about insuring the livestock on a farm. If his/her decision is to insure, shop for and choose a policy.

## RESOURCES

Local insurance agencies having clients with livestock insurance
Local farmers who purchase livestock insurance
Sample policies, claim forms, and informational literature from the insurance companies
**Modern Agricutural Management**, pp. 329-330
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-145

## TOOLS AND EQUIPMENT

Agriculture/Livestock Publications
Insurance Information/Publications
Risk and Uncertainty Information/Publications

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when purchasing livestock insurance. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Sources
   b. Cost comparison
   c. Type of coverage needed (disease, accident, storm, lighting, theft, vandalism, etc.)
   d. Liability features of various policies
2. Without the aid of references, the student will list at least 5 factors to consider in determining the amount of insurance required. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Value of animals
   b. Length of time insured, etc.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
4. Without the aid of references, the student will list 3 criteria for evaluating livestock insurance policies. Those listed will be in agreement with those presented by the teacher or the following criteria:
   a. Adequate comprehensive coverage
   b. Price is reasonable for the coverage
5. Without the aid of references, the student will list at least 6 steps in the process of purchasing livestock insurance. Those listed will agree with the Performance Guides.

V-TECS 40

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Develop budgets for changing the machinery and equipment program

## PERFORMANCE OBJECTIVE

Given a need for changing machinery and equipment and the tools/equipment listed below, develop budgets for changing the machinery and equipment program. Instructor must agree that the budgets will reduce costs and provide timely availability of equipment to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Inventory present stock of machinery.
2. Inventory condition of present stock of machinery.
3. Identify machinery needs.
4. Calculate cost of present and potential machinery on a per acre basis.
5. Prepare budget for present stock of equipment, repair, and potential equipment acquisitions.
   a. Develop least-cost machinery selection information.
6. Compare costs.
   a. Assess labor requirements of each alternative.
   b. Assess projected returns for each alternative.
7. Determine break-even status.
8. Select alternatives appropriate to farm operations.
   a. Custom hire
   b. Lease
9. Develop budget changes.

## LEARNING ACTIVITIES

1. The student will select the correct size for the largest tractor for a specific farm situation.
2. The student will determine the total annual cost (fixed cost plus variable costs) for various farm machines using current local prices and assuming set acreages of crops to be grown.
3. The student will determine the break-even acreage for owning vs. using custom services for a major farm implement.
4. The student will select machine size (width) to give best results for a given size tractor considering timeliness and soil conditions.

## RESOURCES

"Machinery Cost Analysis Worksheet" (duplicate locally)
**Suggested Machinery Ownership and Operating Costs for Selected Farm Machinery in South Carolina for Spring and Summer, 1980**, EER 33
**Doane's Agricultural Reports**, pp. 338.7-350.56
**When To Trade Machines**, Circular 704
**Increase Timeliness With Proper Machinery Selection**, Circular 705
**Selection of Farm Tractors**, Mis. Pub. 68
**Know Your Machinery Costs**, Circular 703
John Deere Company, **Machinery Management**, Moline, Ill., 1975
Clemson Agriculture Economics Department

## TOOLS AND EQUIPMENT

Agriculture/Machinery/Equipment Publications
Calculator
Custom Rate Guides
Depreciation Schedules
Rent/Lease Guides

## EVALUATION

1. Without the aid of references, the student will list at least 3 major factors to consider when developing budgets for changing the machinery and equipment program. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Items to be considered (criteria) for developing a budget for changing the machinery and equipment program
      (1) Expected life of equipment
      (2) Need for additional equipment
      (3) Sizing of machinery and equipment
      (4) Trade-in values
      (5) Purchase prices
      (6) Cost of wear and tear
      (7) Cost of repairing vs. replacement
      (8) Methods of financing
      (9) Fixed vs. variable costs
   b. Purpose of the machinery and equipment budget
      (1) Taxation
      (2) Cash flow
      (3) Financial planning
   c. Criteria for evaluating a machinery and equipment budget
      (1) Adequate in quantity
      (2) Sufficiently detailed to reflect needed changes
2. Without the aid of references, the student will list at least 6 steps in the process of developing budgets for changing the machinery and equipment program. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.

V-TECS 41

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Prepare inventory of farm machinery and equipment

## PERFORMANCE OBJECTIVE

Given farm machinery and equipment and the tools/equipment listed below, prepare inventory of farm machinery and equipment. Instructor must agree that inventory accurately describes farm machinery and equipment of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. List machine and equipment according to purpose and use.
    - a. Identify name of machine.
    - b. Identify manufacturer.
    - c. Identify year, model, size, and serial number.
2. Assess fair market value for each item.
3. Verify inventory list, checking for items that may be off the premises.
4. Prepare inventory of farm machinery and equipment.
5. Select a farm machinery inventory software program.
6. Prepare inventory of farm machinery and equipment using a selected farm machinery inventory software program.

## LEARNING ACTIVITIES

1. The student will construct an inventory form.
2. The student will review an existing inventory form.
3. The student will use an inventory form to inventory a local farm.
4. The student will determine appropriate method of depreciation and calculate depreciable balance and remaining value for each item.
5. The student will utilize appropriate computer software to perform Learning Activity 4.

*6. The student will write a computer program to prepare an inventory of farm machinery and equipment.

## RESOURCES

**South Carolina Farm Record Book**, pp. 36-37
**Modern Agricultural Management**, pp. 88-90
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS Manuals for select computers by brand and model

## TOOLS AND EQUIPMENT

Agriculture Machinery/Equipment Publications
Calculator
Dealers Guide Book
Depreciation Schedules

*For instructors or students who have background or interest in writing programs.

Equipment Record Books
Insurance policy(s)
Typewriter
Microcomputer
Farm machinery inventory software

## EVALUATION

1. Without the aid of references, the student will list at least 5 factors to consider when preparing an inventory of farm machinery and equipment. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Categories needed on a typical farm machinery and equipment form (reporting format)
    b. Types of information needed on a farm machinery and equipment form
    c. The functions and purposes of a farm machinery and equipment inventory
    d. How to determine size, capacity, year, and model
    e. How to determine condition and dollar value
2. Without the aid of references, the student will list at least 4 steps in the process of preparing an inventory of farm machinery and equipment. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the two lists.
    Relevant terminology
    a. Inventory
    b. Serial number
    c. Model number

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Trade farm machinery and equipment

## PERFORMANCE OBJECTIVE

Provided farm machinery and equipment, manufacturer guarantee, statement of dealer service, and tools/equipment listed below, complete trade agreement for farm machinery and equipment. Instructor must agree that trade is beneficial to the farm business enterprise. (1)

## PERFORMANCE GUIDES

1. Assess annual usage of machine.
2. Compare total usage against recommended use life.
3. Determine when machine should be replaced.
4. Determine replacement cost of machine.
5. Assess manufacturer's guarantee and dealer service.
6. Obtain trade agreement.
7. Complete trade agreement.
8. Trade farm machinery and equipment.

## LEARNING ACTIVITIES

1. The student will obtain information from machinery dealers on guarantees on their equipment.
2. The student will get information from machinery dealers on their methods of evaluating used machinery.
3. The student will use an equipment inventory and the above information to evaluate the equipment on a farm with regard to trading or replacing it.
4. The student will decide what equipment to replace, contact equipment dealers, and work out trade agreements.
5. The student will prepare a budget for comparing the cost per year for keeping the old machine vs. replacing it with a new one.

## RESOURCES

**Modern Agricultural Management**, pp. 63-68
Farm machinery companies and local dealers
Georgia Cooperative Extension Service, "When To Trade Machinery"
**South Carolina Market Bulletin**
**Doane's Agricultural Report**, pp. 333-334
**Suggested Machinery Ownership and Operating Costs for Selected Farm Machinery in South Carolina for Spring and Summer, 1980**, EER 33

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Management Informational Resource
Depreciation Schedules
Farm Equipment Catalog and Prices
Farm Management Service Publications
Income Tax Guides

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when trading farm machinery and equipment. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Capacity of machinery and equipment
    b. Goals of farm operation
    c. Trade-in value of machinery and equipment
    d. Price of new and/or used machinery
    e. How to determine current market value of used equipment
2. Without the aid of references, the student will list at least 2 advantages and 2 disadvantages of trading farm machinery and equipment. Such advantages and disadvantages will be in agreement with those presented by the teacher.
3. Without the aid of references, the student will list one source of prices of used and new machinery and equipment. This source will be in agreement with that presented by the instructor.
4. Without the aid of references, list at least 6 steps in the process of trading machinery and equipment. Those listed will agree with the Performance Guides.
5. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Secure machinery and equipment by purchase, rent, or lease

## PERFORMANCE OBJECTIVE

Given a machinery/equipment component of a farm enterprise and the tools/equipment listed below, secure machinery and equipment by purchase, rent, or lease. Instructor must confirm that secured machinery and equipment is advantageous to the farm business enterprise. (1)

## PERFORMANCE GUIDES

1. Assess machinery and equipment needs.
2. Assess ownership cost of machinery and equipment.
3. Assess cost for rent or lease of machinery and equipment.
4. Assess present cash flow ability.
5. Select most profitable alternative.
6. Secure machinery and equipment.

## LEARNING ACTIVITIES

1. The student will read "Capital" (**Modern Agricultural Management,** pp. 171 and 173) and discuss how to best utilize machinery, buildings, and equipment as a flexible resource.
2. The student will read "Fixed Costs Can Eat Into Profits" (**Modern Agricultural Management,** pp. 68-69) and further evaluate real cost of machinery and equipment.
3. The student will read "Alternatives to Owning" (**Financial Planning in Agriculture,** pp. 27-28). Using suggested criteria for selecting alternative methods to ownership, the student will list machinery and equipment to be acquired by each of the following methods:
   a. Machinery and equipment to be rented
   b. Machinery and equipment to be leased
   c. Machinery and equipment to be purchased
4. The student will:
   a. Arrange with individuals or firms for machinery and/or equipment rentals.
   b. Secure contracts on machinery and/or equipment to be leased.

c. Shop for machinery and equipment to be purchased; obtain prices and terms for both new and used items.
d. Shop for credit (read **Financial Planning in Agriculture**, pp. 17-19). Compare payment terms and costs of financing under various interest rates and payment methods available (refer to "Amortization Table for Loan Costs at Various Rates and Maturities," **Financial Planning in Agriculture**, p. 80).
e. Prepare a partial budget for the purchase and repayment of items to be financed (**Financial Planning in Agriculture**, p. 22).

5. The student will arrange financing and complete contracts for delivery.

## RESOURCES

**Financial Planning in Agriculture**, pp. 22, 27-28, 30
**Modern Agricultural Management**, pp. 68-69, 171, 173
Local farm machinery dealers and leasing firms
Local banks and the Production Credit Association (PCA)
**Doane's Agricultural Report**, pp. 551-554

## TOOLS AND EQUIPMENT

Agriculture Machinery/Equipment Publications
Budget Forms
Calculator

## EVALUATION

1. Without the aid of references, the student will list at least 2 factors to consider when securing machinery and equipment by purchase, rent, or lease. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. The "mechonomics" of machinery and equipment; what type and size of equipment is economically justifiable for a particular size and type farm enterprise or combination of enterprises.
   b. How to compare and contrast renting, leasing, and purchasing and the effect of each on cash flow, taxes, etc.
2. Without the aid of references, the student will list at least 6 steps in the process of securing machinery and equipment by purchase, rent, or lease. Those listed will agree with the Performance Guides.

3. Given a list of relevant terminology and a list of random definitions, the student will match the two lists.
   Relevant terminology
   a. Leasing
   b. Cash flow
   c. "Mechonomics"

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Prepare inventory of machinery and equipment repair parts, fuel, oil, and grease

## PERFORMANCE OBJECTIVE

Given access to lubricants, grease, fuel and replacement parts, and the tools/equipment listed below, prepare inventory of machinery and equipment repair parts, fuel, oil, and grease. Instructor must agree that inventory accurately reflects stock of machinery and equipment repair parts, fuel, oil, and grease. (1)

## PERFORMANCE GUIDES

1. Identify parts for each machine.
2. Identify lubricants, grease, and fuel.
3. Prepare inventory of parts, fuel, oil, and grease.
4. Select appropriate farm machinery software program.
5. Complete Performance Guide 3 utilizing the appropriate software program on the microcomputer.

## LEARNING ACTIVITIES

1. The student will identify each repair part.
2. The student will identify each fuel, oil, and grease type stored on the form.
3. The student will determine safe storage conditions for fuel, oil, and grease.
4. The student will select or prepare a form that can be used for inventory.
5. The student will inventory repair parts, fuel, oil, and grease on his/her farm or a farm in his/her area.
6. Select appropriate software programs.
7. Utilize appropriate computer software program to perform Learning Activity 5.

*8. Write an inventory program for repair parts, fuel, oil, and grease.

## RESOURCES

Operator's Manual for each machine
Repair Parts Manual for each machine
Local suppliers of fuel, oil, and grease
Labels on containers for oil and grease
**Fuels and Lubricants**
**South Carolina Farm Record Book**

*For instructors or students who have background or interest in writing programs.

Amco Farm Lubricants
Microcomputer software catalogs
BASIC and DOS manuals in accordance with computer brand and model

## TOOLS AND EQUIPMENT

Farm Equipment Catalogs
Farm Supply Catalogs
Machinery/Operator's Manuals
Service Records
Microcomputer
Farm machinery inventory software

## EVALUATION

1. Without the aid of references, the student will list at least 5 factors to consider when preparing an inventory of machinery and equipment repair parts, fuel, oil, and grease. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Identify parts, fuels, and lubricants
   b. Understanding of inventory forms
   c. Shelf-life of supplies
   d. Storage conditions needed
   e. Purposes of machinery and equipment repair parts, fuel, oil, and grease inventory
   f. Types of inventory forms available
2. Without the aid of references, the student will list at least 3 steps in the process of preparing an inventory of machinery and equipment repair parts, fuel, oil, and grease. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
   Relevant terminology
   a. Shelf-life
   b. Inventory

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Purchase fuel, oil, and grease for machinery/equipment

## PERFORMANCE OBJECTIVE

Given records revealing previous consumption and the tools/equipment listed below, contract for supply of fuel, oil, and grease. Instructor must be satisfied that contract/purchase will provide fuel, oil, and grease for machinery/equipment as it is needed. (1)

## PERFORMANCE GUIDES

1. Review previous consumption.
2. Select grades that will be needed.
3. Assess the amount of each grade needed.
4. Evaluate potential sources of supply.
5. Select provider of goods.
6. Contract for/purchase fuel, oil, and grease for machinery/equipment.

## LEARNING ACTIVITIES

1. The student will collect operation and maintenance manuals for all major equipment.
2. Using records of fuel, oil, and grease used on the farm and the machinery and equipment inventory, the student will determine the amount of these products needed during the next 12 months.
3. The student will contact local oil supply companies and compare prices.
4. The student will determine the storage facilities needed.
5. From the above information, the student will determine the kinds and quantities of products that can best be bought and stored on the farm.
6. The student will make necessary arrangements for fast delivery of products that may not be stored on the farm.

## RESOURCES

Farm machinery manuals for operating and maintaining machinery and equipment
Local fuel and oil companies
**Doane's Agricultural Report**, pp. 311-316

## TOOLS AND EQUIPMENT

Grades of fuel, oil and lubricant offered by supplier(s)
Operator's Manual of machine to be serviced
Service Records

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when purchasing fuel, oil, and grease for machinery/equipment. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Consumption rate of fuel, oil, and grease
    b. Grades of fuels and lubricants needed
    c. Amount of fuels and lubricants needed and on hand
    d. Potential suppliers (how to select supplies)
    e. Costs of supplies
2. Without the aid of references, the student will list at least 6 steps in the process of purchasing fuel, oil, and grease for machinery/equipment. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Purchase machinery/equipment repair parts

## PERFORMANCE OBJECTIVE

Given the need for machinery/equipment repair parts and the tools/equipment listed below, purchase machinery/equipment repair parts. Instructor must confirm that the repair parts will accommodate the machinery/equipment of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess need for machinery/equipment repair parts.
2. Identify part(s) needed.
3. Assess replacement alternatives.
4. Determine number of replacement parts to keep on hand.
5. Select reliable supplier.
6. Purchase needed repair parts.

## LEARNING ACTIVITIES

1. The student will inspect all items included on the inventory of farm machinery and equipment for broken and worn parts and prepare a list of parts to be purchased. Include on the list additional replacement parts for those machines/equipment which are critical to the farm operation and which experience has shown are subject to rapid wear or frequent breakage (for example, certain drive belts, cutter bar knives, etc.).
2. The student will include with the repair parts list the necessary information to properly identify the parts. This should include the following:
   - a. Manufacturer
   - b. Name and kind of machine
   - c. Year made
   - d. Model
   - e. Size
   - f. Number wanted
   - g. Manufacturer's number
   - h. Description
3. The student will select suppliers for the items to be purchased. When selecting suppliers, some factors to consider are:
   - a. Parts for some machines/equipment may be available only from a dealer who has that manufacturer's franchise.

b. Does the dealer provide a parts department and a service department that give satisfactory service when called on?
c. How is financing handled? For example, can parts be charged until the end of the month?
d. Some parts are universal and some distributors may offer lower prices or better terms than others. Examples of such items are batteries, tires, certain carburetor parts, etc.

4. After repair parts are purchased, the student will properly label and maintain an inventory of those parts not immediately installed.

## RESOURCES

Operator's manuals for each piece of machinery or equipment
List of all machinery and equipment from inventory prepared in V-TECS Task 38
Parts departments of local distributors of machinery/equipment
**Doane's Agricultural Report**, pp. 317-318

## TOOLS AND EQUIPMENT

Farm Equipment Catalog
Farm Supply Catalog
Operator's Manual
Parts Catalog

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when purchasing machinery/equipment repair parts. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Parts needed and on hand
   b. How to determine equipment model and part numbers
   c. How to use parts catalogs
   d. Sources of parts catalogs
2. Without the aid of references, the student will list at least 3 criteria for selecting supplies. Those listed will be in agreement with those presented by the teacher or the following criteria:
   a. Convenience
   b. Expertise of parts suppliers (their value in giving repair advice and supplying parts)
   c. Cost as relative to other suppliers

3. Without the aid of references, the student will list at least 5 steps in the process of purchasing machinery/equipment repair parts. Those listed will agree with the Performance Guides.
4. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Purchase welding supplies

## PERFORMANCE OBJECTIVE

Given machinery to be welded and the tools/equipment listed below, purchase welding supplies. Instructor must agree that purchase will provide needed welding supplies and minimum "downtime" of farm operators. (1)

## PERFORMANCE GUIDES

1. Prepare inventory of welding and brazing rods, acetylene, oxygen, and other welding supplies.
2. Determine kinds, types, and shelf life of welding and brazing rods needed for repair of machinery.
3. Prepare list of welding supplies needed.
4. Compare available prices of welding supplies.
5. Select reliable supplier.
6. Purchase welding supplies.

## LEARNING ACTIVITIES

1. The student will prepare a separate form to inventory rods, oxygen, acetylene, and other welding supplies.
2. The student will determine kinds, types and shelf life of welding and brazing rods needed for repair of machinery.
3. The student will prepare list of needed welding supplies.
4. The student will compare prices and quantity of welding supplies.
5. The student will select a supplier of welding supplies.
6. The student will consider economics of quantity purchases and purchase welding supplies.

## RESOURCES

**South Carolina Farm Record Book**, p. 40
**Doane's Agricultural Report**, pp. 317-318

## TOOLS AND EQUIPMENT

Farm Supply Catalogs
Operator's Manual for Welder
Trade Journals

## EVALUATION

1. Without the aid of references, the student will list at least 5 factors to consider when purchasing welding supplies. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Types and amounts required
   b. Competitive prices and suppliers

  c. Rate of use of supplies
  d. Purchasing system
  e. Supplier dependability
2. Without the aid of references, the student will list at least 6 steps in the process of purchasing welding supplies. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.

DUTY: MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

TASK: Purchase machinery and equipment insurance

## PERFORMANCE OBJECTIVE

Given a review of insurance needs and the tools/equipment listed below, purchase machinery and equipment insurance. Instructor must agree that insurance will provide protection needs for risk involved in the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess machinery and equipment insurance needs.
2. Review comprehensive personal liability insurance coverage.
3. Assess physical damage insurance.
4. Assess property and fire insurance.
5. Assess deductible policy savings.
6. Assess coverage combining liability and fire insurance with extended coverage.
7. Select appropriate coverage.
8. Contract for/purchase machinery and equipment insurance.

## LEARNING ACTIVITIES

1. The student will survey 10 or more farmers to determine their practices with respect to insuring farm machinery and equipment and to find out whether they use farm owner or separate policies for machinery and equipment, what value relative to new price is covered, what perils are covered, the amount of any deductible feature, and the cost of the coverage.
2. The student will decide what coverage to carry.
3. The student will shop for and choose a policy.

## RESOURCES

Local insurance agencies providing machinery and equipment insurance to farmers
Sample policies and informational literature from the insurance companies
**Modern Agricultural Management**, pp. 328-329
**Financial Planning in Agriculture, Teacher's Manual**, pp. 141-145

## TOOLS AND EQUIPMENT

Agriculture Insurance Publications
Calculator

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider in purchasing machinery and equipment insurance. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Sources
    b. Cost of comparison data for similar types of coverage
    c. Types of coverage needed (theft, fire, accident, liability)
    d. Liability features available
2. Without the aid of references, the student will list at least 3 factors to be considered in determining the amount of machinery and equipment insurance needed. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Value of machinery and equipment
    b. Cost of insurance
    c. Degree of risk
3. Given a list of relevant terminology and a random list defining such terms, the student will match the 2 lists.
4. Without the aid of references, the student will list at least 6 steps in the process of purchasing machinery and equipment insurance. Those listed will agree with the Performance Guides.
5. Given a review of insurance needs and references and tools/equipment listed above, the student will mock purchase machinery and equipment insurance to provide protection needs for risk involved in the farm enterprise. In making the insurance purchase plan, the student will utilize 4 factors to consider in purchasing insurance, 3 factors in determining the amount of insurance, and outline the steps taken in the development of the overall insurance purchase plan.

**DUTY:** MANAGING THE MACHINERY AND EQUIPMENT PROGRAM

**TASK:** Develop plan for machinery and equipment maintenance program

## PERFORMANCE OBJECTIVE

Given an inventory list and the tools/equipment listed below, develop a plan for machinery and equipment maintenance program. Instructor must confirm that plan will provide the machinery and equipment in running order when it is needed. (1)

## PERFORMANCE GUIDES

1. Designate maintenance/service area.
2. Review inventory list for machinery and equipment items.
3. Develop file of operators and service manual for each item.
4. Develop a daily and/or periodic check and inspection list for each item.
5. Develop a maintenance and service record for each item.
6. Post checklist and service record in a location convenient for use.
7. Periodically check inventory of commonly used parts.
8. Develop plan for machinery/equipment maintenance program.

## LEARNING ACTIVITIES

1. The student will review the inventory to determine the maintenance needs for machines kept.
2. The student will plan the machinery maintenance program on a calendar.
   For each machine list:
   a. Type of maintenance operation
   b. Time required
   c. Costs
   d. When performed
3. The student will make plans to repair what can be done in the home shop.
4. The student will compile a list of reliable repair shops.
5. The student will compare estimates at different shops and make plans to have the repairs made that can't be handled in the home shop.

## RESOURCES

Local farm machinery dealers and repair shops
Dealer's operation and maintenance manuals
**Doane's Agricultural Report**, pp. 317-318

## TOOLS AND EQUIPMENT

Appropriate mechanic's tools
Checklist
Clip board
File
Operator and Service Manuals
Service Records from Dealer/Supplier

## EVALUATION

1. Without the aid of references, the student will list at least 5 factors to consider when developing a plan for the machinery and equipment program. Those listed will be in agreement with those presented by the teacher or the following factors:
    a. Type of maintenance required
        (1) Daily
        (2) Weekly
        (3) Monthly
    b. Tools, equipment, and supplies needed for maintenance program
    c. Sources of necessary operator manuals
    d. Sources of necessary service manuals
    e. Personnel requirements
        (1) Type
        (2) Amount
2. Without the aid of references, the student will list at least 4 criteria for devleoping a machinery and equipment maintenance program. Those listed will be in agreement with those presented by the teacher or the following criteria:
    a. Comprehensive
    b. Adequately detailed
    c. Includes maintenance schedules for all machinery and equipment
    d. Provides for inservice maintenance training for employees
3. Without the aid of references, the student will list at least 6 steps in the process of developing a plan for the machinery and equipment maintenance program. These steps will agree with the Performance Guides.
4. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
5. Given an inventory list and the resources and tools/equipment listed above, the student will develop a plan for machinery and equipment maintenance to provide machinery and equipment in running order when needed. The plan will utilize factors, criteria, steps, and terminology as listed in Nos. 1, 2, and 3.

**DUTY:** MANAGING THE FARM BUILDINGS

**TASK:** Develop a plan for expansion/new farm buildings

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, develop a plan for expansion/new farm buildings. Instructor must confirm that the plan will add to the profit and ability of the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess the need for expansion/new farm buildings.
2. Inventory existing facilities.
3. Determine capacity, adaptability, and alternate use.
4. Assess cost of repair, remodeling, and expansion of existing facilities.
5. Assess cost of replacement with new facilities.
6. Devleop partial budget information.
7. Determine profitability and repayment factors of facilities.
8. Select most profitable alternative.
9. Plan for cash flow ability to service money demands for purchase and operation.
   a. Evaluate investment credit advantages.
   b. Evaluate implications of disposal.
10. Develop a plan for expansion/new farm buildings.

## LEARNING ACTIVITIES

1. The student will list the building and related facility requirements for carrying out the farming operations in an efficient manner. Consider feed storage (hay, silage, grain, supplements), crop supplies (seeds, fertilizers, etc.), machinery and equipment, and specialized livestock requirements (include fences).
2. The student will inventory the building and related facility requirements presently available. Draw a farmstead layout to scale and summarize square feet of floor space, cubic feet of bin space, etc., so that the available facilities can be compared with the requirements.
3. The student will study the farmstead layout for possible improvements in labor efficiency and space utilization.
4. The student will obtain plans for the new building(s) needed and compare the cost and other advantages and disadvantages of purchasing a pre-engineered packaged building vs. custom building on the farm.
5. The student will prepare partial budget(s) for adding the new building(s) needed, then utilize investment credit.

6. The student will summarize new facilities required under the new management plan for the farm, schedule the new additions, and arrange for the required capital.

## RESOURCES

**Doane's Agricultural Report**, pp. 209-212, 251-254, 271-272, 360.5, 377-378, 394.1, 395-398
Suppliers of packaged farm buildings
Local building contractors

## TOOLS AND EQUIPMENT

Agriculture Farm Building Publications
Budget Forms (University Extension)
Calculator
Plan Service for Facility Planning

## EVALUATION

1. Without the aid of references, the student will list at least 6 factors to consider in developing a plan for expansion//new farm buildings. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. How to determine size of buildings required--needs of the operation
   b. Costs of expansion as compared to new farm building
   c. Ability of operation to pay for expansion/new farm buildings
   d. Availability of funding
   e. Needs of the operation to expand
   f. How to determine type of buildings required
   g. How to evaluate the quality of buildings
   h. How to estimate the cost of buildings
2. Without the aid of references, the student will list at least 4 criteria for evaluating a plan for expansion. Such criteria will be in agreement with those presented by the instructor or the following criteria:
   a. Amount of building space
   b. Quality of building
   c. Type of building
   d. Cost of building
3. Without the aid of references, the student will list at least 10 steps in the process of developing a plan for expansion/new farm buildings. Those listed will agree with the Performance Guides.
4. Given the resources and tools/equipment listed above, the student will develop a plan for expansion/new buildings to add to the profit and ability of the farm enterprise. The plan will include factors in developing a plan, criteria for evaluating an expansion plan, and logical steps in the development plan for expansion/new farm buildings as listed in Nos. 1, 2, and 3.

**DUTY:** MANAGING THE FARM BUILDINGS

**TASK:** Develop plan for repairing/remodeling/improving farm buildings

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, develop a plan for repairing/remodeling/improving farm buildings. Instructor must confirm that plan will provide efficient and economic use of farm buildings. (1)

## PERFORMANCE GUIDES

1. Review construction needs.
2. Assess needs for repairing/remodeling/improving farm buildings.
3. Examine alternatives to improving farm buildings.
4. Assess use/efficiency of present facilities.
5. Develop plans for optimum improved use.
6. Assess costs of improvements.
   a. Evaluate investment credit advantages.
7. Develop partial budget information.
8. Detemine ability to pay for improvements.
9. Develop feasible plan for repairing/remodeling/improving farm buildings.

## LEARNING ACTIVITIES

1. The student will determine if farm building improvements will increase profits of the farm operation. Consider the following:
   a. Storage vs. marketing at harvest
   b. Beginning a new farm enterprise such as poultry, swine, dairying, etc.
2. The student will determine cost of needed building improvements.
3. The student will review construction codes for his/her area.
4. The student will determine if there are alternatives to improving existing farm buildings.
5. The student will determine if there are investment credit advantages for improving farm buildings.
6. The student will determine the types of contracts available such as materials and labor, labor only, and labor management and materials.
7. The student will determine how improvements will be financed—sources of credit for farmers.
8. The student will determine ability to pay for proposed building improvements.

Consider the following:
a. Cash flow
b. Other debt retirement expenses
c. Interest and insurance
d. Equipment purchase
e. Equipment repair
f. Family living expenses

9. The student will develop a plan for repairing/remodeling/improving farm buildings. Schedule the improvements, summarize capital requirements, and determine availability of needed capital.

## RESOURCES

**Soybeans: Marketing Alternatives and Pricing Strategies**
Local contractors
Copy of building codes from county administrator
**South Carolina Farm Record Book** - IRS Form 3468
**Credit in Agriculture**, pp. 51-53
**Financial Planning in Agriculture**, pp. 75-79
**Farm Record Book**

## TOOLS AND EQUIPMENT

Agriculture Farm Building Publications
Budget Forms
Calculator
Plan Service for Facility Planning

## EVALUATION

1. Without the aid of references, the student will list at least 10 factors to consider when developing a plan for repairing/remodeling/improving farm buildings. Those listed will be in agreement with those presented by the teacher or the following criteria:
   a. Contribution of the repair/remodeling/improvement to profits of operation
   b. Cost of the repair/remodeling/improvement
   c. Types of contracts:
      (1) Materials and labor
      (2) Labor only
      (3) Labor, management, and materials
   d. How to compare costs of various types of contracts
   e. How to determine the type and extent of repairs/remodeling/improvements needed
   f. How to select contractor for making repairs
   g. How to select appropriate methods for repairs/remodeling/improvements
   h. The major tasks or steps in making repairs/remodeling/improvements
   i. How to prepare a cost estimate of building repairs/remodeling/improvements
   j. How to prepare a schedule of improvements

2. Without the aid of references, the student will list at least 3 criteria for evaluating a plan for repairing/remodeling/improving buildings. Those listed will be in agreement with those presented by the teacher or the following criteria:
    a. Sufficiently detailed
        (1) Provides list of repairs/remodeling/improvements
        (2) Provides schedule of repairs/remodeling/improvements
        (3) States type contract
        (4) Lists materials to be purchased
    b. Accurate
    c. Economically feasible
3. Without the aid of references, the student will list at least 10 steps in the process of developing a plan for repairing/remodeling/improving buildings. Those listed will agree with the Performance Guides.
4. Given the resources and tools/equipment listed above, the student will develop a plan for repairing/remodeling/improving farm buildings to provide efficient and economic use of farm buildings. The plan will include an outline of development factors to consider, evaluation criteria, and logical steps in the development process from Nos. 1, 2, and 3.

DUTY: MANAGING THE FARM BUILDINGS

TASK: Acquire buildings by purchase, rent, lease, etc.

## PERFORMANCE OBJECTIVE

Given the cost of purchase, rental, lease, etc., and the tools/equipment listed below, acquire buildings by purchase, rent, lease, etc. Instructor must confirm that the acquisition of buildings and method chosen are most suitable to the farm enterprise. (1)

## PERFORMANCE GUIDES

1. Assess building needs.
2. Assess cost of purchase, rental, lease, etc.
3. Develop partial budget analysis for asset turnover rate and profit margin.
4. Review present financial resources.
5. Compare methods of acquisition.
6. Select most profitable method of acquisition.
7. Acquire buildings by most profitable method of acquisition.

## LEARNING ACTIVITIES

1. The student will make an inventory (or use one that is available) of all farm buildings. Include the size, condition, and possible use of each building.
2. The student will make a complete list of the building needs of the farm.
3. The student will compare this list with the building inventory and determine the number and types of structures needed that are not available.
4. The student will make a survey of the community to determine the number of buildings available for rent which would meet the farm needs.
5. From the above information, the student will determine the buildings that are to be rented and make arrangements for their rental.

## RESOURCES

Local farmers, real estate agents, and advertisements
**Fixed and Flexible Cash Rental Arrangements for Your Farm**
**Modern Agricultural Management**, pp. 281-289

## TOOLS AND EQUIPMENT

Agriculture Rent/Lease/Cost Publications
Calculator
Contracts for purchase, rental, lease, etc.

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when acquiring buildings by purchase, rent, lease, etc. Those listed will be in agreement with those presented by the teacher or the following factors.
   a. Needs
   b. Cost
   c. Advantages and disadvantages of acquisition methods
      (1) Purchasing
      (2) Renting
      (3) Leasing
   d. Type of records needed
2. Without the aid of references, the student will list at least 1 advantage and 1 disadvantage of purchasing, renting, and leasing. Such advantages and disadvantages will be in agreement with those presented by the teacher or the following:
   a. Replacement costs
   b. Value to farm operation
   c. Comparison with similar structures of equal quality
3. Without the aid of references, the student will list at least 3 factors to consider when appraising farm buildings. Those listed will be in agreement with those presented by the instructor or the following:
   a. Direct negotiations with owner
   b. Dealing through a real estate agent or broker
   c. Legalities of purchasing, renting, or leasing
   d. How to determine fair cost of purchasing/renting/leasing
4. Without the aid of references, the student will list at least 6 steps in the process of acquiring buildings by purchase, rent, or lease. Those listed will agree with the Performance Guides.
5. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
   Relevant terminology
   a. Leasing
   b. Investment credit
   c. Broker
6. Given the cost of purchase, rental, lease, etc., and resources and tools/equipment listed above, the student will develop a plan for purchase, rent, lease, etc. that is most suitable to the farm enterprise.
   The plan will utilize factors to consider when acquiring buildings by the different methods, list advantages and disadvantages of different methods chosen, consider farm building appraisal, and follow logical steps utilizing relevant terminology in development as listed in Nos. 1, 2, 3, 4, and 5.

V-TECS 53

**DUTY:** MANAGING THE FARM BUILDINGS

**TASK:** Purchasing building supplies (paint, cleaners, nails, etc.)

## PERFORMANCE OBJECTIVE

Given a list of needed supplies and the tools/equipment listed below, purchase building supplies. Instructor must confirm that purchases will provide supplies when needed. (1)

## PERFORMANCE GUIDES

1. Assess building supplies needed.
2. Select supplies appropriate to the farm.
3. Purchase building supplies.

## LEARNING ACTIVITIES

1. The student will list common farm building supplies needed on the farm.
2. The student will outline accepted units, signs, grades, and uses of common farm building supplies needed on the farm.
3. The student will make a field trip to a local farm building supply dealership for a town including an explanation and description by the manager of major stocks in supply.
4. The student will fill out a purchase order for needed farm building supplies complete with amounts, units, grades, descriptive terms, and prices.

## RESOURCES

List of sources of supply (dealer, merchants, etc.)
Farm Record Books
Copy of building codes from county administrator
Building Supply Catalogue

## TOOLS AND EQUIPMENT

Calculator
Farm Supply Catalogs

## EVALUATION

1. Given a descriptive plan for repairing/remodeling/or improving farm buildings, the student will make a list of needed supplies complete with quantity, sizes, units, and grades.
2. The student will complete a purchase order for needed supplies using the prices and information from No. 1.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record depreciation

## PERFORMANCE OBJECTIVE

Given farm records and tools/equipment listed below, calculate and record depreciation. Instructor must confirm that calculations and recordings are accurate and reflect the depreciation method most advantageous to the farm enterprise for the current year. (1)

## PERFORMANCE GUIDES

1. Define terms in calculating depreciation.
2. Determine depreciation records needed for farm business.
3. List available depreciation methods.
4. Compare advantages and disadvantages of each method.
5. Select most advantageous method.
6. Using selected method, calculate and record depreciation.
7. Using selected computer software program, calculate and record depreciation.

## LEARNING ACTIVITIES

1. The student will determine 3 methods of depreciation.
   a. Straight line
   b. Declining balance
   c. Sum of the year's digits
   Work out a depreciation problem for one year, using each method.
2. The student will determine influence of each depreciation method on income tax.
3. The student will identify assets in the inventory which can be depreciated.
4. The student will compare advantages and disadvantages of each method of depreciation.
5. The student will select most advantageous method of depreciation for each depreciable item on his/her farm or for a farm in the area.
6. The student will calculate and record depreciation for depreciable property on the inventory. Present a total figure for the farm.
7. Using selected computer software program, calculate and record depreciation for depreciable property on the inventory. Present a total figure for the form.

*8. Write a computer program which will calculate and record depreciation.

*For instructors and students who have background or interest in writing programs.

## RESOURCES

**Modern Agricultural Management**, pp. 63-67
**Farmer's Tax Guide**
**South Carolina Farm Record Book**
**Income Tax Management for Farmers**
**Farm Management Handbook**, pp. 174-175
**Depreciation Records**, Leaflet 22
Microcomputer software catalogs
BASIC and DOS manuals in accordance with computer brand and model
Clemson University Agricultural Extension Service, Ag Econ Department
Programs for farmers
Depreciation software programs

## TOOLS AND EQUIPMENT

Agriculture Depreciation Publications
Calculator
Farmers' IRS Income Tax Guide
IRS Publications
Microcomputer
Depreciation software programs

## EVALUATION

1. Without the aid of references, the student will list at least 4 factors to consider when calculating and recording depreciation. Those listed will be in agreement with those presented by the teacher or the following factors:
   a. Methods of depreciation
      (1) Straight-line
      (2) Declining balance
      (3) Sum of the year's digits
   b. Tax uses of depreciation
   c. Reasons for calculating and recording depreciation
   d. Basic formula for depreciation, e.g.

$$\frac{\text{original cost - salvage value}}{\text{expected life}}$$

2. Without the aid of references, the student will list at least 6 steps in the process of calculating and recording depreciation. Those listed will agree with the Performance Guides.
3. Given a list of relevant terminology and a list of random definitions, the student will match the 2 lists.
   Relevant terminology
   a. Depreciation
   b. Expected life
   c. Salvage value
4. Given farm records, resources, and tools/equipment listed above, the student will calculate and record farm-related depreciations most advantageous to the farm enterprise for the current year.
   The plan will consider factors, follow logical steps, and utilize relevant terminology as listed in Nos. 1, 2, and 3.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record net worth and net worth factors of the farm business

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, calculate and record net worth and net worth factors of the farm business. Instructor must confirm that calculations and recordings measure net worth gain from productivity on a cost basis and net worth at market value. (1)

- a. Without the aid of references, list at least 2 factors to consider when calculating and recording net worth of a farm business. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
- b. Without the aid of references, write the formula for calculating net worth. The formula will be in agreement with the one presented by the teacher or the one in the Performance Guides.
- c. Without the aid of references, list at least 3 steps in the proces of calculating and recording net worth. Those listed will be in agreement with those in the Performance Guides.
- d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Assess assets.
    - a. List all property.
    - b. Assign fair market value on all property.
    - c. Categorize all assets as either current, intermediate, or fixed.
    - d. Determine the total assets by adding values of current, intermediate, and fixed assets.
2. Determine liabilities.
    - a. List all obligations.
    - b. Categorize all liabilities as either current, intermediate, or fixed.
    - c. Determine the total liabilities by adding values of the current, intermediate, and fixed liabilities.
3. Calculate and record the net worth of the farm business, the current capital ratio, net capital ratio, working capital, working capital ratio, and the dept equity ratio.
4. Using a selected computer software program, compute Performance Guide 3.

## LEARNING ACTIVITIES

1. The student will explain the formula:
   net worth = assets - liabilities.
2. The student will list factors that help determine the value of the following assets:
    - a. Land
    - b. Buildings
    - c. Equipment
    - d. Livestock
    - e. Stored crops (feed, seed, etc.)
    - f. Growing crops
3. Using his/her home farm or a simulated farm provided by the instructor, the student will prepare a form listing the value of all the assets (current, itermediate, and fixed). The student will also list the net worth of the farm, the current capital ratio, net capital ratio, working capital, working capital ratio, and the best equity ratio.

4. Using a selected computer program, perform Learning Activity 3.
*5. Write a computer program which will accomplish Learning Activity 3.

## RESOURCES

**Modern Agricultural Management**, pp. 83-93
**South Carolina Farm Record Book**
**Financial Planning in Agriculture**, pp. 7-9
**Farm Management Handbook**, pp. 169-171
**Doane's Agricultural Report**, pp. 541-544
**Financial Planning in Agriculture, Teacher's Manual**, pp. 39-57
Clemson University Extension service, Ag Econ Department
Computers programs for farmers
BASIC and DOS manuals for select computer brand and model

## TOOLS AND EQUIPMENT

Calculator
Complete Farm Business Financial Records
Inventories
Microcomputer
Financial Statement
Software programs

## EVALUATION

Given a farm financial statement listing both assets and liabilities (neither specified as such) and without aid from the instructor or other references, the student will determine the current, intermediate, and fixed assets; total assets; current, intermediate, and fixed liabilities; total liabilities; net worth; current capital ratio; net capital ratio; working capital; working capital ratio; and the debt equity ratio.

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*For instructors or students who have background or interest in writing programs.

## WORKSHEET ON NET WORTH AND NET WORTH FACTORS

Use this form to list some items and amounts found on a farm's financial statement. Your instructor will provide this information. Use these items to complete the financial statement of the farm.

| ITEM | AMOUNT |
|---|---|
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1. List assets and total in correct blanks below.

Current Assets ____________________
____________________
____________________
____________________
____________________
____________________ ____________ TOTAL

Intermediate Assets ____________________
____________________
____________________
____________________
____________________
____________________ ____________ TOTAL

Fixed Assets ____________________
____________________
____________________
____________________
____________________
____________________ ____________ TOTAL

____________ TOTAL ASSETS

2. List liabilities and total in correct blanks below.

Current Liabilities ____________________

____________________

____________________

____________________

____________________ ____________________ TOTAL

Intermediate Liabilities ____________________

____________________

____________________

____________________

____________________

____________________ ____________________ TOTAL

Fixed Liabilities ____________________

____________________

____________________

____________________

____________________

____________________ ____________________ TOTAL

____________________ TOTAL LIABILITIES

3. Calculate the following net worth factors.

   a. Net worth is ________________.

   b. Current capital ratio is ____________.

   c. Net capital ratio is ______________.

   d. Working capital is ________________.

   e. Working capital ratio is ___________.

   f. Debt equity ratio is ______________.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record labor income

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, complete calculation and record labor income. Instructor must agree that calculations and recordings reflect the exact amount of labor income generated by farm enterprise. (1)

a. Without the aid of references, list at least 5 factors to consider when calculating and recording labor income. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, write the basic formula for calculating labor income. The formula will be in agreement with the one presented by the teacher or the one in the Performance Guides.
c. Without the aid of references, list at least 6 steps in the process of calculating and recording labor income. Those listed will be in agreement with those in the Performance Guides.
d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Review definitions of terms used in the calculation of labor income.
2. Assign a rate of return on a farm investment.
3. Assign a management payment.
4. Review records needed to calculate labor income.
5. Review calculations of labor income.
6. Calculate labor income.
7. Record labor income.
8. Calculate and record labor income using appropriate computer program.

## LEARNING ACTIVITIES

1. "Labor Income" is an often used measure of a farm's profitability. The student will read "Profitability" (**Modern Agricultural Management**, p. 102 or **Farm Management Handbook**, p. 190) for a listing of various methods of comparing farm profitability.
2. The student will study the "Labor Income Summary" in a livestock record book such as the Clemson **Beef Cattle Record Book.** The "Labor Income Summary" in this record gives easy to follow steps in figuring labor income (returns to operator's labor and management).

3. From a completed copy of the **South Carolina Farm Record Book**, the student will calculate the farm's "labor income" by securing from the farm records the following information.
   a. Total farm receipts (p. 42)
   b. Total expenses (p. 42)
   c. Interest on average investment (p. 42)
   d. Value of unpaid family labor (This should be estimated as the **South Carolina Farm Record Book** has no place for recording family labor.)

*4. The student will utilize an appropriate computer software program to record and calculate labor income as indicated in Learning Activity 3.

RESOURCES

**South Carolina Farm Record Book**
**Modern Agricultural Management**, p. 102
**Beef Cattle Record Book**, p. 102
**Farm Management Handbook**, pp. 190-197
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model
Microcomputer
Appropriate software programs

TOOLS AND EQUIPMENT

Agriculture Labor Publications
Calculator
Farm Business Financial Records
Microcomputer
Appropriate software program

EVALUATION

Given the necessary tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate the labor income of an agricultural enterprise.

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*For instructors or students who have background or interest in writing programs.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record management income

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, calculate and record management income. Instructor must agree that calculations and recordings reflect the exact amount of management income generated in farm enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider when calculating and recording management income. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references, list at least 6 steps in the process of calculating and recording management income. Those listed will be in agreement with those listed in the Performance Guides.

c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Review definition of terms used in the calculation of management income.
2. Assign a rate of return on farm investment.
3. Assign a labor income.
4. Review records needed to calculate management income.
5. Review calculations of management income.
6. Calculate management income.
7. Record management income.
8. Use a selected computer program to calculate and record management income.

## LEARNING ACTIVITIES

1. The student will define:
   a. Net operating income
   b. Labor of operator and unpaid family labor
   c. Interest on current and working capital
   d. Rental value of land
   e. Management income
2. The student will calculate and record management income for a typical farm in his/her area. Assign a fair value for unpaid family labor.

*3. The student will use a computer program to calculate and record management income for a typical farm in his/her area.

## RESOURCES

**Modern Agricultural Management**, pp. 138-139
**South Carolina Farm Record Book**, p. 42
**Farm Management Handbook**, p. 197
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model
Microcomputer
Appropriate software

*For instructors or students who have background or interest in writing programs.

## TOOLS AND EQUIPMENT

Agricultural Management Publications
Calculator
Farm Business Management Records
Microcomputers
Appropriate software

## EVALUATION

1. Given the necessary tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will define and calculate the following:
    a. Net operating income
    b. Labor value of operator and unpaid family labor
    c. Interest on current and working capital
    d. Rental value of the land
2. Using the factors in No. 1, the student will calculate the management income for the farm example used in Learning Activity No. 2.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate ratios for liquidity, solvency, profitability, and efficiency. Also, complete a comparative trend analysis table.

## PERFORMANCE OBJECTIVE

Given access to a definition of terms used in a comparative trend analysis table and the tools/equipment listed below, calculate business ratio and complete a comparative trend analysis table. Instructor must agree that the comparative trend analysis table reflects the trends in the farm business in the areas of increases/decreases, net worth, enterprise productivity and profit or loss.

a. Without the aid of references, list at least four factors to consider when completing a comparative trend analysis table. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, write the purposes of a comparative trend analysis table. Such purposes will be in agreement with those presented by the teacher.
c. Without the aid of references, write the basic formula for liquidity, solvency, profitability, and efficiency. The formula will be in agreement with the one presented by the instructor or the one in the Performance Guides.
d. Without the aid of references, list at least three steps in the process of completing a comparative trend analysis table. Those listed will be in agreement with those in the Performance Guides.
e. Given a list of relevant terminology and a list of random definitions, match the two lists.

## PERFORMANCE GUIDES

1. Review terms used in the preparation of a comparative trend analysis table.
2. Review financial statements from the past several years.
   a. Net worth statements
   b. Profit and loss statements
   c. Livestock and crop production records
3. Complete a comparative trend analysis table.
4. Utilizing a computer program, prepare a comparative trend analysis table.

## LEARNING ACTIVITIES

1. The student will review the information on a comparative trend analysis table.
2. The student will list the components of a record system that are necessary for making a comparative trend analysis table.
3. The student will explain the value of a comparative trend analysis to a farm manager.
4. The student will review the relevant terminology for making a comparative trend analysis of a farm.

5. Using the information available on crop and livestock production and sales, the student will make a comprehensive trend analysis table of the enterprise on a farm.
6. Utilizing a computer program, prepare a comparative trend analysis table for the enterprises on a farm.

*7. Write a computer program to prepare a comparative trend analysis table.

## RESOURCES

**Modern Agricultural Management**, pp. 83-111, 137-140
**Financial Planning in Agriculture**, pp. 9-11
**Farm Management Handbook**, pp. 239-243
**Doane's Agricultural Report**, pp. 545-546
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Agriculture Finance Publications
Calculator
Sample of Comparative Trend Analysis Table
Complete Financial Records of the Farm Business
Microcomputer
Appropriate software

## EVALUATION

1. Given the proper tools/equipment, a complete farm financial statement for the past 3 years, an example of a comparative trend analysis table, and without aid from the instructor or other references, the student will calculate the formulas for liquidity, solvency, profitability, and efficiency from the latest year's financial statement.
2. Using the information provided by the financial statements from the 2 previous years, the student will complete the sample comparative trend analysis table.

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*For instructors or students who have background or interest in writing programs.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Complete a farm profit and loss statement

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, complete a farm profit and loss statement. Instructor must confirm that statement accurately reflects the farm's profits and losses. (1)

a. Without the aid of references, list at least 4 factors to consider when completing a farm profit and loss statement. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 5 steps in the process of completing a farm profit and loss statement. Those listed will be in agreement with those in the Performance Guides.
c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Review procedures for calculating and recording cash income and expenditures.
2. Review procedures for calculating and recording inventories and depreciation schedules.
3. Determine method of valuation for unpaid family labor and farm produce used at home.
4. Review a farm profit and loss form.
5. Complete farm profit and loss statement.
6. Use a computer program to complete a farm profit and loss statement.

## LEARNING ACTIVITIES

1. The student will calculate profit or loss as follows:
   a. Total cash farm receipts + increase in inventory (subtract if decrease) + income from sales of machinery or other capital assets + sales of breeding livestock + value of farm produce used at home.
   b. Total cash farm expenses + costs of new machinery + costs of permanent improvements + costs of breeding livestock.
   c. Subtract the smaller total from the larger of a and b above to find profit or loss.
2. Utilize a computer program to calculate profit or loss as indicated in Learning Activity 1.

*3. Write a computer program designed to generate a farm profit and loss statement.

*For instructors or students who have background or interest in writing programs.

## RESOURCES

**South Carolina Farm Record Book**, p. 42
**Financial Planning in Agriculture, Teacher's Manual**, pp. 59-70
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model
Microcomputers
Appropriate software

## TOOLS AND EQUIPMENT

Agriculture Finance Publications
Appropriate Finance Forms
Calculator
Complete Farm Business Financial Records

## EVALUATION

Given the proper tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate the profit and loss statement of the farm business given as an example.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record operating margin

## PERFORMANCE OBJECTIVE

Given access to complete records of income and expenses for a specific unit of operation and the tools/equipment listed below, calculate and record operating margin. Instructor must confirm that calculations and recordings accurately reflect the operating margin for the specific unit of the farm business enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider when calculating and recording operating margin. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references, list at least 4 steps in the process of calculating and recording operating margin. Those listed will be in agreement with those listed in the Performance Guides.

c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Review completed record of income and expenses for a specific unit.
2. Subtract total expenses from total income.
3. Enter the outcome of income minus expenses into operating margin space.
4. Calculate and record operating margin for specified unit.
5. Select and use a computer program to calculate and record operating margins for a specified unit.

## LEARNING ACTIVITIES

1. The student will explain how to determine gross profit.
2. The student will explain how to determine operating costs.
3. The student will explain how to determine depreciation on working assets.
4. The student will explain how to determine operating margin.
5. The student will review the completed record of "Estimated Costs and Break-Even Prices for a 100-Unit Cow/Calf Enterprise" and complete the following activities.
   a. Subtract total expenses from total income.
   b. Enter as operating margin.
   c. Calculate and record operating margin for this enterprise.
6. Select and use a computer program to perform Learning Activity 5.

*7. Write a computer program to calculate and record operating margins.

RESOURCES

**Modern Agricultural Management**, p. 138
**South Carolina Beef Cattle Systems** EER 38, p. 13
**Farm Management Handbook**, p. 179
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

TOOLS AND EQUIPMENT

Farm Record Book
Summary of Net Operating Margin of Farms
Microcomputers
Appropriate software

EVALUATION

Given the proper tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate the operating margin of the farm business.

*For instructors or students who have background or interest in writing programs.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record net cash operating income for a year

## PERFORMANCE OBJECTIVE

Provided access to farm records and the tools/equipment listed below, calculate and record net cash operating income for a year. Instructor must agree that calculations and recordings accurately reflect net cash operating income for the farm business. (1)

a. Without the aid of references, list at least 3 factors to consider when calculating and recording net cash operating income for a year. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references, list at least 3 steps in the process of calculating and recording net cash operating income for a year. Those listed will be in agreement with those in the Performance Guides.

c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Determine farm receipts and operating expenses for the year.
2. Subtract cash expense for the year from cash income for the year.
3. Record net cash operating income for the year.
4. Select and use a computer program to calculate and record net cash operating income for a year.

## LEARNING ACTIVITIES

1. The student will define these terms:
   a. Gross cash income
   b. Total cash expenses
   c. Net cash operating income
2. Given the necessary records, the student will determine the net cash operating income for a farm for a year.
3. The student will list some factors that are not included in the net cash operating income that should be considered when figuring the true net income for the year.
4. Use a computer program to calculate and record net cash operating income for a year.

*5. Write a computer program to calculate and record net cash operating income for a year.

*For instructors or students who have background or interest in writing programs.

## RESOURCES

**Modern Agricultural Management**, pp. 83-101
**Financial Planning in Agriculture**, p. 10
**Farm Management Handbook**, pp. 171-172
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Agriculture Finance Publications
Calculator
Complete Farm Records
Farm Records Summary
Microcomputers
Appropriate software

## EVALUATION

Given the proper tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate and record the net cash operating income for the year.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record capital gains or losses

## PERFORMANCE OBJECTIVE

Given access to sale information and the tools/equipment listed below, calculate and record capital gains or losses. Instructor must confirm that calculations and recordings reflect qualifying capital gain or loss tax benefits to the farm enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider when calculating and recording capital gains or losses. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references, list at least 4 steps in the process of calculating and recording capital gains or losses. Those listed will be in agreement with those listed in the Performance Guides.

## PERFORMANCE GUIDES

1. Evaluate nature of the sale.
2. Review IRS codes sections.
3. Select appropriate reporting methods.
4. Calculate and record capital gains and losses.
5. Use a computer program to calculate and record capital gains and losses.

## LEARNING ACTIVITIES

1. The student will read **Farmer's Tax Guide** for definitions of the following:
   a. Capital assets
   b. Short-term and long-term assets
   c. Basis of property
   d. Adjusted basis
2. The student will:
   a. Study sample of completed Form 4797, "Supplemental Schedule of Gains and Losses," **Farmer's Tax Guide,** and read the suggested steps for completing Form 4797.
   b. Complete Form 4797, "Supplemental Schedule of Gains and Losses," using data from his/her completed **South Carolina Farm Record Book,** Part III, "Capital Transactions," pp. 34-35.
   The net capital gain or loss you have calculated on Form 4797 will be used in a subsequent lesson on the completion of IRS Tax Form 1040.

3. Use a computer program to calculate and record capital gains and losses.
*4. Write a computer program or subroutine which will calculate and record capital gains and losses.

## RESOURCES

A completed **South Carolina Farm Record Book**, pp. 34-35 or other available farm records
**Farmer's Tax Guide**
Internal Revenue Service Tax Form 4797
**Income Tax Management for Farmers**
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Calculator
Farmer's Tax Guide
IRS Bulletins
Tax Reporting Forms
Microcomputers
Appropriate software

## EVALUATION

Given the proper tools/equipment, a complete farm financial statement and without aid from the instructor or other references, the student will calculate and record capital gains or losses for the farm business.

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*For instructors or students who have background or interest in writing programs.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record personal and farm share of expenses

## PERFORMANCE OBJECTIVE

Given access to farm expense records and the tools/equipment listed below, calculate and record personal and farm share of expenses. Instructor must confirm that calculations and assignments reflect the actual expense allocation for the farm enterprise. (1)

a. Without the aid of references, list at least 3 factors to consider when calculating and recording personal and farm share of expenses. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 4 steps in the process of calculating and recording personal and farm share of expenses. Those listed will be in agreement with those listed in the Performance Guides.
c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Determine expense involved in both personal and business areas.
2. List nondeductible personal living and family expenses.
3. Segregate the percent of farm share of these expenses.
4. Calculate and record personal and farm share of expenses.
5. Use a computer program to calculate and record personal and farm share of expenses.

## LEARNING ACTIVITIES

1. The student will determine what expenses are considered personal expenses.
2. The student will determine what expenses are divided into farm and personal share of expenses.
3. The student will decide how to estimate farm share of expense items on a percentage basis.
4. The student will calculate and record personal and farm share expenses for his/her farm or for a typical farm in his/her area.
5. The student will use a computer program to calculate and record personal and farm share of expenses for his/her farm or for a typical farm in his/her area.

*6. Write a computer program to accomplish Learning Activity 5.

*For instructor or students who have background or interest in writing programs.

## RESOURCES

**Farmer's Tax Guide**
**Modern Agricultural Management**, p. 138
**South Carolina Farm Record Book**, Clemson University, pp. 8-9
Household record book for personal expenses
**A Guide For Planning Family Spending**, HM Leaflet 524
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Calculator
Farmer's Tax Guide
IRS Agriculture Publications
Microcomputer
Appropriate software

## EVALUATION

Given the necessary tools/equipment, a complete financial statement of a family farm, and without aid from the instructor or other references, the student will calculate and record personal and farm share of expenses of the family farm business.

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**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record monthly/yearly farm receipts

## PERFORMANCE OBJECTIVE

Provided monthly/yearly farm receipts and the tools/equipment listed below, calculate and record monthly/yearly farm receipts. Instructor must be satisfied that calculations are accurate and that recordings reflect all receipts of the farm enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider in calculating and recording monthly/yearly farm receipts. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, write the basic formula for calculating monthly/yearly farm receipts. Such a formula will agree with that presented by the teacher.
c. Without the aid of references, list at least 5 steps in the process of calculating and recording monthly/yearly farm receipts. Those listed will be in agreement with those in the Performance Guides.
d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Identify available record keeping methods.
2. Select the record keeping method that best fits farm business needs.
3. Identify information needed for selected system.
4. Calculate monthly/yearly farm receipts.
5. Record/transmit calculations to record books or accounting service.
6. Use a computer program to calculate and record monthly/yearly farm receipts.

## LEARNING ACTIVITIES

1. The student will make a complete list of the sources of income on his/her home farm.
2. The student will list at least 5 types of information that should be included when recording farm receipts.
3. On a prepared ledger sheet, the student will calculate and record his/her home farm receipts by month and year.
4. The student will compare actual income from each enterprise with budget sheets ("Costs and Returns"). Explain any large differences.
5. The student will use a computer program to calculate and record monthly/yearly farm receipts.

*6. The student will write a computer program to calculate and record monthly/yearly farm receipts.

*For instructors or students who have background or interest in writing programs.

## RESOURCES

**Modern Agricultural Management**, pp. 96-97
**Financial Planning in Agriculture**, pp. 11-14
**South Carolina Farm Record Book**, pp. 2-3
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Agriculture Finance Publications
Calculator
Farm Record Books
Microcomputer
Appropriate software

## EVALUATION

Given the necessary tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate and record monthly/yearly farm receipts.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Calculate and record monthly/yearly farm operating expenses

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, calculate and record monthly/yearly farm operating expenses. Instructor must be satisfied that calculations and recordings are accurate and that they include all the operating expenses for the farm enterprise. (1)

a. Without the aid of references, list at least 3 factors to consider when calculating and recording monthly/yearly farm operating expenses. Those listed will be in agreement with those presented by the teacher in the Performance Guides.

b. Without the aid of references, list at least 3 items to be included when recording operating expenses. Such items will be in agreement with those presented by the teacher or those in the Performance Guides.

c. Without the aid of references, write the basic formula for calculating monthly/yearly farm operating expenses. The formula will be in agreement with that presented by the instructor.

d. Without the aid of references, list at least 5 steps in the process of calculating and recording monthly/yearly farm operating expenses. Those listed will be in agreement with those in the Performance Guides.

e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Identify available record keeping methods.
2. Select record keeping method that best fits farm business needs.
3. Identify information needed for selected systems.
4. Calculate monthly/yearly farm operating expenses.
5. Record/transmit data to record books or accounting service.
6. Utilize computer program to calculate and record monthly/yearly farm operating expenses.

## LEARNING ACTIVITIES

1. The student will read "One Record System" (**Modern Agricultural Management**, p. 83) for a listing of the components of a complete record system.
2. The student will practice recording "scrambled" expense items in the record book. Code items by income tax category and by enterprise. Summarize by totaling for one month. Sum of the total column must equal the sum of all other expense columns.
3. The student will utilize a computer program to accomplish Learning Activity 2.

*4. The student will write a computer program designed to calculate and record monthly/yearly farm operating expenses.

RESOURCES

**Modern Agricultural Management**, p. 83
**South Carolina Farm Record Book**, pp. 8-33, 42
**Doane's Agricultural Services**
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

TOOLS AND EQUIPMENT

Agriculture Finance Publications
Calculator
Farm Record Books
Microcomputers
Appropriate software

EVALUATION

Given the necessary tools/equipment, a complete farm financial statement, and without aid from the instructor or other references, the student will calculate and record monthly/yearly farm operating expenses.

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*For instructors or students who have background or interest in writing programs.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Balance bank statements

## PERFORMANCE OBJECTIVE

Given access to the tools/equipment listed below, balance bank statements. Instructor must be shown that bank statement and checkbook balance reconcile. (1)

a. Without the aid of references, design a bank statement form. Such a form will be in agreement with that presented by the teacher.
b. Without the aid of references, write the basic formula for determining balance. Such a formula will be in agreement with that presented by the teacher or the one listed in the Performance Guides.
c. Without the aid of references, list at least 7 steps in the process of balancing (recording) a bank statement. Those listed will be in agreement with those in the Performance Guides.
d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Obtain statement from bank.
2. Arrange deposit slips in chronological order.
3. Check statement for recording of deposits.
4. Arrange checks in numerical order.
5. Check statement as to recording of checks.
6. Compare bank balance total with checkbook total.
7. Utilize a computer program to complete Performance Guide 6.

## LEARNING ACTIVITIES

1. The student will practice checkbook balancing exercises which can be found in bookkeeping textbooks.
2. The student will secure sample bank statements from each bank serving his/her community. Practice reconciling checkbook balances using each sample.
3. Utilize appropriate computer programs to complete Learning Activity 1.

*4. Write a computer program which will balance a checkbook.

## RESOURCES

Teachers of business education courses
Representatives from local banks
Computer software catalogs
Clemson Extension Service, Ag Econ Department
Computer programs for farmers

*For instructors or students who have background or interest in writing programs.

## TOOLS AND EQUIPMENT

- Bank Statements
- Calculator
- Cancelled checks
- Checkbook
- Checkbook deposit receipts
- Microcomputers
- Appropriate computer software

## EVALUATION

Given the necessary tools/equipment, a sample bank statement with cancelled checks, a sample checkbook (corresponding to previous statement and cancelled checks), sample deposit receipts, and without aid from the instructor or other references, the student will balance a monthly bank statement for the farm business.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Develop and negotiate credit plan for the farm business

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, develop and negotiate a credit plan for the farm business. Instructor must be satisfied that amount of credit is justified and loan repayment is within cash flow ability of the farm enterprise. (1)

a. Without the aid of references, list at least 3 factors to consider in developing and negotiating credit plan for the farm business. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Given a hypothetical farm financial situation, determine the assets, liabilities, cash flow, net worth, and profit or loss. Such determination will agree with that presented by the instructor.

c. Without the aid of references, list at least 6 steps in the process of developing and negotiating a credit plan for the farm business. Those listed will be in agreement with those in the Performance Guides.

## PERFORMANCE GUIDES

1. Determine need for credit plan for farm business.
2. Complete the following financial statements:
   a. Net worth statement
   b. Profit/loss
   c. Cash flow statements
   d. Comparative standard analysis sheet
3. Identify items for which credit will be needed.
4. Assess providers of lending services.
5. Select provider of lending service.
6. Develop credit plan for the farm business.
7. Negotiate credit.

## LEARNING ACTIVITIES

1. The student will define these terms:
   a. Production credit
   b. Consumption consumer credit
   c. Short-term loan
   d. Long-term loan
2. The student will prepare a financial record (money map) of his/her home farm (or of a simulated farm prepared by the instructor) showing the income, expenses, and net worth that could be used as a base in establishing a source of income.
3. The student will determine credit requirements for operating funds throughout the years.
4. The student will listen to representatives from available sources (banks, savings and loan, farm credit systems, etc.) speak to the class on obtaining and using farm credit.
5. The student will compare sources and recommend the best sources of credit for various uses.

## RESOURCES

**Financial Planning in Agriculture**, pp. 14-20
**Modern Agricultural Management**, pp. 264-273
Local banks, farm credit agencies, etc.
**Financial Planning in Agriculture, Teacher's Manual**, pp. 79-99, 101-122, 155-177, 245-267
**Credit in Agriculture**
**Credit in Agriculture, Teacher's Guide**, Chaps. 1-5
**Money Map**
Farm Management Handbook, Chap. 14
**Doane's Agricultural Report**, pp. 507-510

## TOOLS AND EQUIPMENT

Agricultural Credit Publications
Calculator
Cash Flow Statement
Comparative Trend Analysis Sheet
Net Worth Statement
Profit/Loss Statement

## EVALUATION

1. Given the necessary tools/equipment, a complete farm financial statement, a comparative analysis sheet on the farm operation for the past 3 years, and without aid from the instructor or other references, the student will complete the following information needed to prepare a complete credit plan.
    a. Net worth statement
    b. Profit/loss statement
    c. Cash flow statement
    d. Comparative trend analysis statement
2. The student will develop a complete credit plan for the farm under question. Determine credit needs for short, intermediate, and long-term situations.
3. The student will use the credit plan as a guide when assessing and selecting a provider of credit services. List the steps necessary to select and negotiate credit for the farm business.

**DUTY:** MANAGING FINANCES OF THE FARM BUSINESS

**TASK:** Develop plan for bestowing the estate

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, develop a plan for bestowing the estate. Instructor must confirm that all resources of the farm enterprise have been included in the plan and that the plan is compatible to family and farm enterprise goals. (1)

a. Without the aid of references, list at least 5 factors to consider when developing a plan for bestowing the estated. Those lised will be in agreement with those presented by the teacher or in the Performance Guides.
b. Without the aid of references, write the basic formula for calculating the amount of estate tax required. Such a formula will be in agreement with that presented by the teacher.
c. Without the aid of references, list the major purposes of an estate plan. Such purposes will be in agreement with those presented by the instructor.
d. Without the aid of references, list at least 6 steps in the process of developing a plan for bestowing the estate. Those listed will be in agreement with those in the Performance Guides.
e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Determine assets, liabilities, and net worth.
2. Identify heirs and alternative heirs.
3. Identify estate goals.
4. Obtain legal services.
5. Review alternative methods of bestowal.
6. Select appropriate alternatives.
7. Contract for bestowal.
8. File documents in appropriate, accessible places.

## LEARNING ACTIVITIES

1. The student will explain how transfer of the estate is affected by the type of business organization (i.e., sole proprietorship, partnership or corporation).
2. The student will list the costs that are often associated with the transfer of an estate.
3. The student will list some estate planning tools that are available to help the planner accomplish his/her objectives. List the function, advantages and disadvantages for each.
4. For an assumed situation, the student will plan for the efficient transfer of an estate so as to most nearly accomplish the assumed objective of the farmer. State the date the plan begins to go into effect.

## RESOURCES

**Financial Planning in Agricuture, Teacher's Manual**, pp. 185-208
**Modern Agricultural Management**, Chap. 14
**Doane's Agricultural Report**, pp. 559-562.7, 485-486
Local attorney who specializes in estate planning for farmers
Probate judge

## TOOLS AND EQUIPMENT

Agriculture Estate Publications
Complete Financial Records

## EVALUATION

1. Given the necessary tools/equipment, a complete farm financial statement, estate planning guides, and without aid from the instructor or other references, the student will develop a detailed list of assets, liabilities, and net worth of the farm business.
2. The student will calculate the amount of estate tax required by the law based on No. 1.
3. The student will develop a detailed plan complete with legal documents and methods to bestow estate to the selected heirs.

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Fill out income tax form: income or loss schedule

## PERFORMANCE OBJECTIVE

Given records of farm income, farm expense, and the tools/equipment listed below, complete income tax form income or loss schedule. Instructor must confirm that completed schedule includes all income or loss items of the farm enterprise. (1)

a. Without the aid of references, list at least 5 factors to consider when completing income tax forms. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references but with a set of data provided by the teacher, compute the following:
   1. Total income
   2. Total expenses
   3. Depreciation
   4. Capital gains
   5. Inventory value

   Such computations will be in agreement with those presented by the teacher.

c. Without the aid of references, list at least 1 source of information on farm tax laws. Such sources will be in agreement with those presented by the instructor.

d. Without the aid of references, list at least 4 steps in the process of filling out income tax forms. Those listed will be in agreement with those in the Performance Guides.

e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Record totals of farm income.
2. Record totals of farm expense.
3. Compute gain or loss.
4. Enter in appropriate spaces on farm business income or loss schedule.
5. Transfer information to other tax forms.

## LEARNING ACTIVITIES

1. The student will define the following:
   a. Tax credit allowances, exemptions, deductions
   b. Farm tax laws
   c. Tax schedule
   d. Total income
   e. Total expenses
   f. Tax credit allowances
2. The student will determine how to compute:
   a. Total income
   b. Total expenses
   c. Depreciation
   d. Capital gain
   e. Inventory value

3. Using figures from his/her farm or a set of figures provided by the instructor, the student will complete the following steps:
   a. Record totals of farm income
   b. Record totals of farm expense
   c. Compute gain or loss
   d. Enter in appropriate spaces on farm business income or loss schedule
   e. Transfer information to other tax forms

RESOURCES

IRS Kit, **Understanding Taxes**
IRS Form 1040, Schedule F
**Farmer's Tax Guide**
**Modern Agricultural Managment**, pp. 138, 345-349

TOOLS AND EQUIPMENT

Agriculture Tax Publication
Calculator
Farmer's Tax Guide
IRS Capital Gains Form
IRS Farm Schedule
IRS Investment Credit Form
Record Books

EVALUATION

1. Given the necessary tools/equipment, agricultural tax publications, a complete farm financial statement, IRS tax publications, IRS Form 1040 Schedule F, and without aid from the instructor or other references, the student will calculate the following:
   a. Total farm income
   b. Total expenses
   c. Depreciation
   d. Capital gains
   e. Inventory values
2. Using the above information, the student will correctly complete income or loss schedule -- IRS 1040 Schedule F. Transfer to other tax forms.

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Fill out federal income tax capital gain or loss schedule

## PERFORMANCE OBJECTIVE

Given records of capital gains or losses, short and long-term capital gains or losses, and the tools/equipment listed below, complete federal income tax capital gain or loss schedule. Instructor must be satisfied that completed schedule includes all capital gain or loss items of the farm enterprise. (1)

a. Without the aid of references, interpret a typical set of directions which accompanys a federal income tax capital gain or loss schedule. Such an interpretation will agree with that presented by the teacher.
b. Without the aid of references, write the basic formula for computing capital gains or losses. Such a formula will agree with that presented by the teacher.
c. Without the aid of references, list at least 5 steps in the process of filling out a federal income tax capital gain or loss schedule. Those listed will be in agreement with those in the Performance Guides.
d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE OBJECTIVE

1. Record sale of all eligible items for capital gains or losses.
2. Record purchase of eligible items.
3. Record improvements made on eligible items since purchase.
4. Record number of months eligible items are held.
5. Assess short or long-term capital gains or losses for eligible items.
6. Record information on proper tax schedule.

## LEARNING ACTIVITIES

1. The student will listen to a representative from the Internal Revenue Service speak on figuring capital gains and losses in filing income tax returns.
2. The student will explain the difference in short-term capital gains and losses schedule.
3. The student will make a list of assets on the farm that should be included when filing a capital gains and losses schedule.
4. The student will fill out a capital gains and losses schedule for the farm income tax return.

## RESOURCES

**Income Tax Management for Farmers**
**Depreciation Records**, Leaflet 22
**Modern Agricultural Management**, pp. 133-137
IRS Kit, **Understanding Taxes**

## TOOLS AND EQUIPMENT

- Agriculture Tax Publications
- Calculator
- Farmer's Tax Guide
- IRS Capital Gains Form
- Record Books

## EVALUATION

Given the necessary tools/equipment, the same farm financial statement as in V-TECS Task 69, appropriate IRS publications, complete federal income tax gains or loss schedule, and without aid from the instructor or other references, the student will:

a. Calculate the amounts of gains, losses, improvements, and purchases of eligible items.
b. Assess short or long-term capital gains or losses for eligible items.
c. Complete correctly the federal income tax capital gains or losses schedule for the farm business.

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Fill out federal income tax investment credit schedule (IRS Form 3468)

## PERFORMANCE OBJECTIVE

Given items and records subject to investment credit and the tools/equipment listed below, complete federal income tax investment credit schedule. Instructor must be satisfied that completed schedule includes all investment credit items of the farm enterprise. (1)

a. Without the aid of references, write the basic formula for computing income tax investment credit. The formula will be in agreement with that presented by the teacher.
b. Without the aid of references, interpret directions provided on an income tax investment credit schedule. Such an interpretation will be in agreement with that presented by the teacher.
c. Without the aid of references, list at least 3 factors to consider when filling out a federal income tax investment schedule. Those listed will be in agreement with those presented by the instructor or those in the Performance Guides.
d. Without the aid of references, list at least 5 steps in the process of filling out a federal income tax investment credit schedule. Those listed will be in agreement with those in the Performance Guides.
e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Record qualified investment and realistic life of items subject to investment credit.
2. Compute investment credit appropriate to item(s) on investment credit schedule.
3. Complete records of sales of items subject to investment credit.
4. Record information in appropriate spaces on income tax investment credit schedule.

## LEARNING ACTIVITIES

1. The student will determine the items that are eligible for investment credit.
2. The student will compute investment credit by completing Form 3468.
3. The student will determine amount to carry forward if the amount of credit exceeds limitations.

## RESOURCES

**Farmer's Tax Guide**
Form 3468, "Computation of Investment Credit," Internal Revenue Service
Form 534, "Depreciation Schedules," Internal Revenue Service
**Modern Agricultural Management**, pp. 347-348

**Depreciation Records,** Agriculture Economic Leaflet 22
IRS Kit, **Understanding Taxes**
**Doane's Agricultural Services,** pp. 477-488

## TOOLS AND EQUIPMENT

Agriculture Tax Publications
Calculator
Farmer's Tax Guide
IRS Investment Credit Schedule
Record Books

## EVALUATION

Given the necessary tools/equipment, the same farm financial statement as V-TECS Task 69, necessary IRS publication, IRS Form 3468, Schedule for Investment Tax Credit, and without aid from the instructor or other references, the student will complete the following:

a. Compute investment credit on items based on realistic life of items and on items subject to investment credit that were sold during the year in question.
b. Complete correctly the investment credit schedule of the tax form.

V-TECS 72

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Fill out federal income tax FICA schedule

## PERFORMANCE OBJECTIVE

Given farm income eligible for FICA, farm gain or minimum, and the tools/equipment listed below, complete federal income tax FICA schedule. Instructor must confirm that completed schedule includes all FICA-related items of the farm enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider when filling out a federal income tax FICA schedule. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, write the basic formula for computing FICA. Such a formula will be in agreement with that presented by the teacher.
c. Without the aid of references, list at least 3 eligibility rules. Such rules will be in agreement with those presented by the instructor.
d. Without the aid of references, list at least 4 steps in the process of filling out a federal income tax FICA schedule. Those listed will be in agreement with those listed in the Performance Guide.
e. Given a list of relevant terminology and a list of random definitions, match the two lists.

## PERFORMANCE GUIDES

1. Assess farm income eligible for FICA taxes.
2. List farm income eligible for FICA taxes.
3. Calculate FICA taxes due.
4. Record information in proper spaces on FICA schedule.

## LEARNING ACTIVITIES

1. The student will determine the following:
   a. Where to obtain schedule for FICA
   b. Laws that apply to farm and employees
   c. Time of year to report
   d. Taxation implication of FICA
2. The student will determine the basic formula for computing FICA taxes.
3. The student will determine eligibility regulations for FICA withholding.
4. Using information from his/her farm record or one given by the instructor, the student will complete Forms W-2, W-3, W-4, W-5, and 943 as required. Prepare calendar of due dates for the forms.
5. The student will assume errors have been transmitted and complete Form 941C.

6. The student will complete Form 7018-A to order forms for next year.

## RESOURCES

IRS Kit, **Understanding Taxes**
**Farmer's Tax Guide**
IRS Circular A, **Agricultural Employer's Tax Guide**
IRS Form 943, **"Employers Annual Tax Return for Agricultural Employees"**

## TOOLS AND EQUIPMENT

Agriculture Tax Publications
Calculator
Farmer's Tax Guide
IRS FICA Schedule
Record Books

## EVALUATION

Given the necessary tools/equipment; the same farm financial statement as in V-TECS Task 69; IRS publications; IRS Forms W-2, W-3, W-4, W-5, 943, 941C, and 7018-A; and without aid from the instructor or other references, the student will:

a. Determine the eligibility and compute FICA taxes based on financial statement.
b. Correctly complete Forms W-2, W-3, W-4, W-5, and 943 on the farm operation (as required).
c. Practice completion of Form 941C for correction of errors.
d. Correctly complete Form 7018-A on farm business for the next year.

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Complete federal income tax Form 1040

## PERFORMANCE OBJECTIVE

Provided completed federal tax schedules, federal income tax Form 1040 and the tools/equipment listed below, complete federal income tax Form 1040. Instructor must confirm that completed form includes all income information of the farm enterprise and that tax due/refund request is correct. (1)

a. Without the aid of references, list at least 3 factors to consider in completing federal income tax Form 1040. Such factors will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, but with a set of typical data, calculate total farm income, total expenses, capital gains, and investment credit. Such calculations will be in agreement with those presented by the teacher.
c. Without the aid of references, list at least 2 rules for claiming personal exemptions and 2 rules for claiming deductions. Such rules will be in agreement with those presented by the teacher.
d. Without the aid of references, list at least 1 source of information concerning income tax. Such a source will be in agreement with that presented by the teacher.
e. Without the aid of references, list at least 10 steps in the process of completing federal income tax Form 1040. Those listed will be in agreement with those in the Performance Guides.
f. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Obtain completed federal income tax schedules.
2. Transfer bottom line figures from the following:
   a. Farm income or loss schedule
   b. Capital gains or losses schedule
   c. Investment credit schedule
   d. FICA schedule
3. Enter "other" income in appropriate boxes.
4. Calculate total income and deductions.
5. Calculate taxable income.
6. Compute tax due (or refund).
7. Record information in correct spaces on tax forms.
8. Request refund or enclose check.
9. Attach W-2 forms to federal income tax form.
10. Send completed tax form to appropriate tax office.

## LEARNING ACTIVITIES

1. The student will study IRS Publication 225, **Farmer's Tax Guide**, Chapter 22, "A Sample Return."
2. The student will complete IRS Form 1040, U.S. **Individual Income Tax Return** for the farm being used.
3. The student will complete any other related schedules and forms required to accompany the tax return.

## RESOURCES

Completed (filled in) **Farm Record Book**

**Farmer's Tax Guide**

Internal Revenue Service tax forms:

a. Form 1040, U.S. **Individual Income Tax Return** with related forms, schedules, and instructions (packaged)

b. Completed Schedule F (Form 1040), **Farm Income and Expenses**

c. Completed Form 3468, **Investment Credit**

d. Other completed tax schedules and forms as required

**Understanding Taxes**

**Doane's Agricultural Services**, pp. 419-434, 437-482

## TOOLS AND EQUIPMENT

Agriculture Tax Publications
Calculator
Completed Federal Income Tax Forms and Schedules
Farmer's Tax Guide
Record Books

## EVALUATION

Given necessary tools and equipment, the information determined in V-TECS Tasks 69, 70, 72 and 73, the same financial statement as in V-TECS Task 69, IRS forms and publication, and without aid from the instructor or other references, the student will prepare the remainder of IRS Form 1040 for the farm business and submit it to the government.

**DUTY:** MANAGING TAXES FOR THE FARM BUSINESS

**TASK:** Complete state income tax form

## PERFORMANCE OBJECTIVE

Given completed federal tax forms, appropriate W-2 forms and the tools/equipment listed below, complete state income tax form. Instructor must confirm that the completed form includes all state income tax elements of the farm enterprise and that calculations are without error. (1)

a. Without the aid of references, but with a set of typical data provided by the instructor, calculate income, expenses, deductions, exemptions, and depreciation. Such calculations will be in agreement with those presented by the teacher.
b. Without the aid of references, list at least 1 source of tax information. Such a source will be in agreement with that presented by the teacher.
c. Without the aid of references, list at least 3 factors to consider in completing state income tax forms. Those listed will be in agreement with those presented by the instructor or those in the Performance Guides.
d. Without the aid of references, list at least 5 steps in the process of completing state income tax forms. Those listed will be in agreement with those listed in the Performance Guides.
e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Transfer amounts listed on federal tax forms to appropriate places on state tax forms.
2. Calculate total income.
3. Calculate total expenses.
4. Calculate tax due or refund.
5. Enter information in appropriate boxes on tax forms.
6. Attach check or request refund.
7. Attach W-2 forms to state income tax forms.
8. Send completed tax form to appropriate tax office.

## LEARNING ACTIVITIES

1. The student will list the differences between state and federal regulations regarding the reporting of income and deductions.
2. After having completed reports for the federal income tax on the farm, the student will complete the state income tax report.

## RESOURCES

Local income tax consultant

South Carolina Tax Commission, Form 1001, Form 1001-F, and "Instructions for Preparing Form 1001"

## TOOLS AND EQUIPMENT

Agriculture Tax Publications
Calculator
Completed Federal Income Tax Forms and Schedules
Farmer's Tax Guide
Record Books

## EVALUATION

Given the necessary tools/equipment and the same problem as in V-TECS Tasks 69-73, the student will correctly complete the state tax form and prepare it for submission to the state government. The student should do this using state tax publications and without aid from the instructor.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Contract for professional management services

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, select and contract for management service. Instructor must agree that professional management service is economically feasible to the farm enterprise. (1)

a. Without the aid of references, list at least 5 criteria for selecting professional management services. Such criteria will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 2 sources of professional management services. Such sources will be in agreement with those presented by the teacher.
c. Without the aid of references, list at least 2 factors to consider when contracting for professional management services. Such factors will be in agreement with those presented by the instructor or those in the Performance Guides.
d. Without the aid of references, list at least 4 steps in the process of contracting for professional management services. Those listed will be in agreement with those in the Performance Guides.
e. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Assess professional management service needs.
2. Compare available professional management services.
3. Select appropriate management services.
4. Contract for management services.

## LEARNING ACTIVITIES

1. The student will list several factors in the farm business that would indicate a need for professional management services.
2. The student will outline the services that a professional management service should provide.
3. The student will make a survey of farm management service sources.
4. The student will compare the services and prices of these sources.
5. With the above information, the student will decide what source to use and contract for needed management services.

## RESOURCES

**Modern Agricultural Management**, pp. 5-14
**Labor Management on the Farm**
South Carolina Equipment Service
**Doane's Agricultural Report**

## TOOLS AND EQUIPMENT

Agricultural Management Publications
Complete Farm Management Information Resource
Farm Management Service Publications

## EVALUATION

Given the necessary tools/equipment and without aid from the instructor or other references, the student will:

a. Study the farm business to determine if a professional management service is needed. List reasons why services are needed based on study.
b. Survey and compare the types and availability of local management services for farm business.
c. Prepare a sample contract for professional management services.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Keep crop production records

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, keep crop production records. Instructor must confirm that records reflect actual cost per bushel/ton and provide an analysis of profit/loss of the crops in the farm enterprise. (1)

a. Without the aid of references, list at least 3 criteria to consider when keeping crop production records. Such criteria will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 5 items to be recorded in a typical crop record ledger. Such items will be in agreement with those presented by the teacher or those in the Performance Guides.
c. Without the aid of references, list at least 3 purposes of crop production records. Those listed will be in agreement with those presented by the instructor or those in the Performance Guides.
d. Without the aid of references, list at least 5 steps in the process of keeping crop production records. Those listed will be in agreement with those listed in the Performance Guides.

## PERFORMANCE GUIDES

1. Review methods of recording crop production.
2. Select method of recording that best meets needs.
3. Assess production costs and expenses.
4. Compute cost per bushel or ton of crop.
5. Record crop production.

## LEARNING ACTIVITIES

1. The student will read the paragraph "Enterprise Accounts" (**Modern Agricultural Management**, p. 78) on the importance of keeping crop or other farm enterprise records by separate enterprise accounts.
2. The student will review V-TECS Tasks 62 and 63 which relate to keeping farm receipts and farm operating expense records.
3. The student will note that recommended systems of farm record keeping are designed to contain pages with columnar headings to facilitate entering crop production records by separate enterprises.
4. If stored crops are fed on the farm, the student will insure that the capacity of storage facilities is readily available so that crop yields can be conveniently estimated. Refer to Performance Objective 21 relative to inventoring harvested crops.

5. The student will refer to **South Carolina Farm Record Book**, p. 48. Note that this page, "Crop Record," provides a summary of a year's crop production. This can facilitate the analysis of crop production by enterprises.
6. As suggested in prior V-TECS Tasks, the student will insure that farm records are complete by recording all inputs, expenses, and receipts as they occur.
7. The student will complete the Crop Enterprise Record Book for an actual crop grown recently. Analyze the record for making improvements in the enterprise.

## RESOURCES

**Modern Agricultural Management**, p. 78
Completed V-TECS Tasks 21, 62 and 63
**South Carolina Farm Record Book**, pp. 2-7, 8-33, 48
Crop Enterprise Record

## TOOLS AND EQUIPMENT

Agriculture Crop Production Publications
Calculator
Record Books

## EVALUATION

Given the necessary tools/equipment, sample crop enterprise budget, and sample farm crop production records, the student will:

a. Prepare a complete crop production record statement.
b. Prepare an enterprise budget for the farm for next year's crop based on last year's performance. State averages projecting income and labor needs for the production of the crop.
c. Determine the return per unit of fertilzer on the crop and allocate these resources for the next year depending upon costs, cash, and credit available.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Contract for veterinarian services

## PERFORMANCE OBJECTIVE

Given livestock and agriculture veterinarian publications, select and contract for veterinarian services. Instructor must agree that contract will provide veterinarian services needed in the farm enterprise. (1)

a. Without the aid of references, list at least 5 factors to be considered in contracting for veterinarian services. Such factors will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 1 source of veterinarian services available in the area. Those listed will be in agreement with those presented by the instructor.
c. Without the aid of references, list at least 4 steps in the process of contracting for veterinarian services. Those listed will be in agreement with those listed in the Performance Guides.
d. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Assess need for veterinarian services.
2. Assess available veterinarian services.
3. Select service best suited to needs.
4. Contract for veterinarian services.

## LEARNING ACTIVITIES

1. The student will interview veterinarians and farmers involved in contracts for services to ascertain the provisions of the contracts and the degree of satisfaction they hold for the arrangement. Find out how each feels the contract could be improved.
2. The student will evaluate the economic feasibility of contracting for veterinary services (use a partial budget).
3. The student will complete a contract for veterinarian services.

## RESOURCES

Local veterinarians
Local livestock farmers using contract veterinarian services

## TOOLS AND EQUIPMENT

None

## EVALUATION

Given the necessary tools/equipment and information and without aid from an instructor or other references, the student will determine the following based on a sample livestock operation.

a. Study the livestock operation and list at least 5 reaons for contracting veterinarian services.

b. Compare the costs of at least 2 veterinarians in the area.

c. Correctly prepare a contract to provide veterinarian services to the sample livestock operation.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Complete livestock records

## PERFORMANCE OBJECTIVE

Given livestock data and the tools/equipment listed below, complete livestock records. Instructor must confirm that records provide data pertinent to the maintenance of livestock in the farm enterprise. Upon demand, farm manager must be able to provide back up information for any entry in the records. (1)

a. Without the aid of references, list at least 4 types of livestock records needed. Such types of records will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 4 major purposes of keeping livestock records. Such purposes will be in agreement with those presented by the teacher or those in the Performance Guides.
c. Without the aid of references, list at least 5 steps in the process of completing livstock records. Those listed will be in agreement with those in the Performance Guides.

## PERFORMANCE GUIDES

1. Assess livestock record need.
2. Select categories of recording.
3. Select most convenient method of recording.
4. Make complete entries at the beginning of the year.
5. Make additional entries during the year as appropriate.

## LEARNING ACTIVITIES

1. The student will make a list of the kinds of livestock records that should be kept; check to see that every phase of the livestock program is included.
2. The student will compare several livestock record forms and either adopt one to use on his/her home farm or compose a set of livestock records for his/her farm.
3. The student will enter the livestock records of the home farm on the adopted forms.

## RESOURCES

**Beef Cattle Record Book**
**Swine Enterprise Account Book**
**Modern Agricultural Managment**, pp. 83-87

## TOOLS AND EQUIPMENT

Agriculture Livestock Publications
Livestock Record Forms
Record Books

## EVALUATION

Given the necessary tools/equipment and without aid from an instructor or other references, the student will:

a. List 5 reasons why livestock records are necessary for efficient management.

b. Use a sample livestock operation to correctly complete examples of breeding, production, sales, and medical and financial records on livestock. Be able to calculate cost per pound of grain, efficiency income, and balance of animals ration for the lowest cost of production.

**DUTY: PERFORMING GENERAL ADMINISTRATIVE SERVICES**

**TASK:** Contract for machinery and equipment repair services

## PERFORMANCE OBJECTIVE

Given agriculture machinery and equipment publications, select and contract for machinery and equipment repair services. Instructor must agree that contract will provide repair services needed in the farm enterprise. (1)

a. Without the aid of references, list at least 3 factors to consider when contracting for machinery and equipment repair services. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list 2 advantages and disadvantages of contracting for repair services. Such advantages and disadvantages will be in agreement with those presented by the teacher.
c. Without the aid of references, list at least 4 steps in the process of contracting for machinery and equipment repair services. Those listed will be in agreement with those in the Performance Guides.

## PERFORMANCE GUIDES

1. Assess machinery and equipment repair service needs.
2. Assess available providers of service.
3. Select most appropriate provider of services.
4. Contract for machinery and equipment repair services.

## LEARNING ACTIVITIES

1. The student will determine the sources of contract machinery and repair services available locally.
2. The student will study the provisions of service contracts for important differences.
3. The student will select one of the maintenance contracts and evaluate its economic feasibility by using a partial budget.
4. The student will list other factors that might influence the decision to contract.

## RESOURCES

Local farm equipment dealers
Local farmers who use service contracts
**Modern Agricultural Management**, pp. 152-155
**Farm Management Handbook**, Chap. 16
**Doane's Agricultural Report**, p. 547
**Financial Planning in Agriculture: Teacher's Guide**, pp. 129-133

## TOOLS AND EQUIPMENT

None

## EVALUATION

Given the necessary tools/equipment, a sample farm operation, and without aid from an instructor or other references, the student will:

a. Use a detailed evaluation of the farm operation and list 3 reasons why contracting for equipment repair services would be financially helpful.
b. Correctly prepare a machinery and equipment services contract.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Record machinery/equipment services

## PERFORMANCE OBJECTIVE

Given maintenance service records and the tools/equipment listed below, record machinery/equipment services. Instructor must confirm that the record of services includes financial/tax information and a clear service history. (1)

a. Without the aid of references, list at least 2 factors to consider in recording machinery and equipment services. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.

b. Without the aid of references, list at least 2 types of machinery and equipment services to be recorded. Such types will be in agreement with those presented by the teacher.

c. Without the aid of references, list at least 3 steps in the process of recording machinery/equipment services. Those listed will be in agreement with those listed in the Performance Guides.

## PERFORMANCE GUIDES

1. Obtain farm record book.
2. Identify machinery/equipment maintenance services.
3. Record services in record book.
4. Utilize a computer program to record machinery/equipment services.

## LEARNING ACTIVITIES

1. The student will determine purpose of recording machinery and equipment services.
2. The student will determine type of form needed to record machinery and equipment services performed.
3. The student will determine types of services to be recorded.
4. The student will identify machinery/equipment maintenance services, and record them in the Farm Record Book.
5. Utilize a computer program to record machinery/equipment services.

*6. Write a computer program which will record machinery/equipment services.

## RESOURCES

Owner/operator's manuals

IRS and South Carolina income tax forms; section on expenses

**Farm Record Book**, "Cash Expenses Codes 2, 9, 12"

*For instructors or students who have background or interest in writing programs.

**Tractor Maintenance, Principles and Procedures**
Clemson University Extension Service, Ag Econ Department
Programs for farmers
BASIC and DOS manuals for select computer by brand and model

## TOOLS AND EQUIPMENT

Agriculture Machinery/Equipment Publications
Calculator
Farm Record Books
Income Tax Guide
Microcomputers
Appropriate software

## EVALUATION

Given the necessary tools/equipment, the student will correctly prepare machinery service records on a sample farm operation. This is to be done without aid from an instructor or other references.

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**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Contract for financial record keeping services

## PERFORMANCE OBJECTIVE

Given the tools/equipment listed below, select and contract for financial record keeping services. Instructor must confirm that the contract includes services needed for the farm enterprise. (1)

a. Without the aid of references, list at least 1 source of accounting services. Such a source will be in agreement with that presented by the teacher.
b. Without the aid of references, list at least 3 factors to consider when contracting for financial record keeping services. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
c. Without the aid of references, list at least 4 steps in the process of contracting for financial record keeping services. Those listed will be in agreement with those listed in the Performance Guides.

## PERFORMANCE GUIDES

1. Assess financial record keeping service needs.
2. Assess available financial record keeping services.
3. Select most appropriate financial record keeping service.
4. Contract for record keeping service.

## LEARNING ACTIVITIES

1. The student will analyze the farm business to determine the possible need for professional financial record keeping. List several factors that would influence the decision to obtain professional help in keeping records.
2. The student will develop a score card for evaluating a provider of record keeping services.
3. The student will list sources where he/she might obtain professional help in record keeping.
4. The student will contract sources to determine the professional help that best suits his/her needs.

## RESOURCES

**Modern Agricutural Management**, pp. 3-14
South Carolina Employment Service
Local accounting services

## TOOLS AND EQUIPMENT

Agriculture Financial Publications
Calculator
Record Books
Typewriter

## EVALUATION

Given the proper tools/equipment and a sample farm situation, the student will:

a. List 3 factors that should be considered when contracting for a financial record keeping system.
b. Prepare correctly a contract for the sample farm's financial record keeping services.

**DUTY:** PERFORMING GENERAL ADMINISTRATIVE SERVICES

**TASK:** Select tax consultant services

## PERFORMANCE OBJECTIVE

Given a complete set of tax records and the tools/equipment listed below, select tax consultant services. Instructor must agree that consultant services are feasible for the farm enterprise. (1)

a. Without the aid of references, list at least 4 factors to consider when selecting consultant services. Those listed will be in agreement with those presented by the teacher or those in the Performance Guides.
b. Without the aid of references, list at least 4 steps in the process of selecting a tax consultant service. Those listed will be in agreement with those listed in the Performance Guides.
c. Given a list of relevant terminology and a list of random definitions, match the 2 lists.

## PERFORMANCE GUIDES

1. Assess tax consultant service needs.
2. Identify source and specialities of available consultant services.
3. Select appropriate consultant service.
4. Contract for consultant service.

## LEARNING ACTIVITIES

1. The student will study "Income Tax Management" (**Modern Agricultural Management**, pp. 342-353).
2. The student will refer to V-TECS Task 80. The financial record keeping service selected for setting up and keeping the farm records should also provide the additional service of preparing the farm business tax returns.
3. The student will consult other farm operators for names of local accountants or tax consultant firms who are familiar with farm record keeping and farm tax problems.
4. The student will discuss tax consultant services with one or more local accountants or tax consultant firms who are willing to accept another client.
5. The student will compare the extent of services offered and costs.
6. The student will contract in writing with the selected tax consultant service.

## RESOURCES

**Modern Agricultural Management**, pp. 342-353
Local farm operators
Local accountants and tax consultants

## TOOLS AND EQUIPMENT

Agriculture Tax Publications
Farmer's Tax Guide

## EVALUATION

Given the necessary tools and equipment and without aid from the instructor or other references, the student will correctly prepare a contract for a tax consultant service for a farm operation.

# APPENDICES

# CROSS-REFERENCE TABLE OF DUTIES, TASKS AND PERFORMANCE OBJECTIVES

Project Code: 4002
O.E. Code 01.0104
D.O.T. Code: 180.168-022 (General Farm Manager)
No. of Respondents 127

| | | Duty/Task | P/O Page Number |
|---|---|---|---|
| A. | | Obtaining and/or Disposing of the Farm Enterprise | |
| | 01 | Establish and record personal and family goals | 1/4 |
| | 02 | Establish and record farm financial goals | 2/6 |
| | 03 | Develop plan for type and size of farm enterprise | 3/8 |
| | 04 | Obtain title to farm real estate | 4/11 |
| | 05 | Complete farm rental/lease agreement | 5/13 |
| | 06 | (F08) Purchasing building insurance | 6/15 |
| | 07 | Purchasing liability insurance | 7/17 |
| | 08 | (F04) Transfer farm ownership | 8/19 |
| B. | | Managing and Supervising the Labor Supply | |
| | 01 | Develop a plan for amount of labor needed | 9/21 |
| | 02 | (B08) Hire and dismiss workers | 10/23 |
| | 03 | Establish and record pay scale and benefits for workers | 11/25 |
| | 04 | Train workers using a demonstration performance method | 12/27 |
| | 05 | Devleop employee work schedules | 13/28 |
| | *06 | Complete employee work performance records | --- |
| | 07 | Contract for custom service | 14/30 |
| | 08 | (B03) Fire (dismiss) farm workers | --- |
| | 09 | Prepare farm payroll records | 15/32 |

| | Duty/Task | PO/Page Number |
|---|---|---|
| C. | Managing the Crop Program | |
| 01 | Prepare land use plan (field layouts, rotations, etc.) | 16/34 |
| 02 | Prepare plan for cropping program (types, varieties, amounts, etc.) | 17/36 |
| 03 | Develop budgets for changing crop program | 18/38 |
| 04 | Prepare inventory of harvested crops | 19/40 |
| 05 | Enroll in Agricultural Stabilization Conservation Service (ASCS) Program | 20/42 |
| 06 | Enroll in and review Soil Conservation Service (SCS) practices | 21/44 |
| 07 | (C09) Contract for custom crop production/harvesting services | --- |
| 08 | (C10) Contract out to perform custom crop services for others | --- |
| 09 | (C07) Contract for custom crop production/harvesting services | 22/46 |
| 10 | (C08) (E05) Contract out to perform custom crop services for others | 23/48 |
| 11 | Develop crop marketing plan | 24/50 |
| 12 | Purchase crop insurance | 25/52 |
| 13 | Apply for collection on insured crops | 26/54 |
| *14 | Obtain certification for pesticide application | --- |
| 15 | (C16) Purchase irrigation system | --- |
| 16 | (C15) Develop plan for purchase and operation of irrigation system | 27/55 |
| 17 | Develop plan for fertilizer need | 28/57 |
| 18 | Develop plan for pesticide need | 29/60 |
| 19 | Develop plan for seed/plant needs | 30/62 |

|  |  | Duty/Task | PO/Page Number |
|---|---|---|---|
| D. |  | Managing the Livestock Program |  |
|  | 01 | Develop livestock program plan (selection of types, breeds, grades, numbers, etc.) | 31/64 |
|  | 02 | Develop plan for raising young stock | 32/66 |
|  | 03 | Develop budgets for changing the livestock program | 33/68 |
|  | 04 | Develop plan for livestock feeding program | 34/70 |
|  | 05 | Develop livestock/livestock products marketing plan | 35/73 |
|  | 06 | (D07) Market livestock/livestock products | 36/75 |
|  | 07 | (D06) Market livestock products | --- |
|  | *08 | Market livestock supplies | --- |
|  | 09 | Contract for breeding services | 37/77 |
|  | 10 | Enroll in livestock improvement program | 38/79 |
|  | 11 | Purchase livestock insurance | 39/81 |
|  | *12 | Apply for collection on livestock insurance | --- |
| E. |  | Managing the Machinery and Equipment Program |  |
|  | 01 | Develop budgets for changing the machinery and equipment program | 40/83 |
|  | 02 | Prepare inventory of farm machinery and equipment | 41/85 |
|  | *03 | Sell farm machinery and equipment | --- |
|  | 04 | Trade farm machinery and equipment | 42/87 |
|  | 05 | (C10) Rent out/lease out machinery and equipment | --- |
|  | 06 | Secure machinery and equipment by purchase, rent or lease | 43/89 |
|  | 07 | Prepare inventory of machinery and equipment repair parts, fuel, oil, and grease | 44/92 |

|  | Duty/Task | PO/Page Number |
|---|---|---|
| 08 | Purchase fuel, oil and grease for machinery/ equipment | 45/94 |
| 09 | Purchase machinery/equipment repair parts | 46/96 |
| 10 | Purchase welding supplies | 47/99 |
| 11 | Purchase machinery and equipment insurance | 48/101 |
| *12 | Apply for collection on machinery and equipment insurance | --- |
| 13 | Develop plan for machinery and equipment maintenance program | 49/103 |
| F. | Managing the Farm Buildings |  |
| 01 | Develop a plan for expansion/new farm buildings | 50/105 |
| 02 | Develop plan for repairing/remodeling/improving farm buildings | 51/107 |
| 03 | Acquire buildings by purchase, rent, lease, etc. | 52/110 |
| 04 | (A08) Sell buildings | --- |
| 05 | Purchasing building supplies (paint, cleaners, nails, etc.) | 53/112 |
| *06 | Prepare inventory of building supplies (paint, cleaners, nails, etc.) | --- |
| *07 | Prepare inventory of buildings | --- |
| 08 | (A06) Purchasing building insurance | --- |
| *09 | Apply for collection on building insurance | --- |
| G. | Managing Finances of the Farm Business |  |
| 01 | Calculate and record depreciation | 54/113 |
| 02 | Calculate and record net worth and net worth factors of the farm business | 55/115 |
| 03 | Calculate and record labor income | 56/121 |
| 04 | Calculate and record management income | 57/123 |

| Duty/Task | PO/Page Number |
|---|---|
| 05 Complete a comparative trend analysis table | 58/125 |
| 06 Complete a farm profit and loss statement | 59/127 |
| 07 Calculate and record operating margin | 60/129 |
| 08 Calculate and record net cash operating income for a year | 61/131 |
| 09 Calculate and record capital gains or losses | 62/133 |
| 10 Calculate and record personal and farm share of expense | 63/135 |
| 11 Calculate and record monthly/yearly farm receipts | 64/137 |
| 12 Calculate and record monthly/yearly farm operating expenses | 65/139 |
| 13 Balance bank statements | 66/141 |
| 14 (G15) Develop and negotiate credit plan for the farm business | 67/143 |
| 15 (G14) Negotiate credit | --- |
| 16 Develop plan for bestowing the estate | 68/145 |
| H. Managing Taxes for the Farm Business | |
| 01 Fill out income tax form: income or loss schedule | 69/147 |
| 02 Fill out federal income tax capital gain or loss schedule | 70/149 |
| 03 Fill out federal income tax investment credit schedule | 71/151 |
| 04 Fill out federal income tax FICA schedule | 72/153 |
| *05 Complete federal income tax partnership/corporation schedule | --- |
| 06 Complete federal income tax form 1040 | 73/155 |
| 07 Complete state income tax form | 74/157 |
| *08 Complete sales tax forms | --- |

| Duty/Task | PO/Page Number |
|---|---|
| *09 Fill out inheritance or gift tax form schedules | --- |
| I. Performing General Administrative Services | |
| 01 Contract for professional managment services | 75/159 |
| 02 Keep crop production records | 76/161 |
| 03 Contract for veterinarian services | 77/163 |
| 04 Complete livestock records | 78/165 |
| 05 Contract for machinery and equipment repair services | 79/167 |
| 06 Record machinery/equipment services | 80/169 |
| *07 Prepare building records | --- |
| 08 Contract for financial record keeping services | 81/171 |
| 09 Select tax consultant services | 82/173 |

## DEFINITION OF TERMS

The following terms are supplied to establish operational definitions as they apply to this study.

CAREER LADDER: A vertical arrangement of jobs within an occupational area to indicate skill distinction and progression.

CATALOGS: A comprehensive collection of performance objectives, performance guides, criterion-referenced measures, and related data organized by a job structure or career ladder within a domain of interest.

CONSORTIUM: A group of state agencies, institutions, or other entities which have been legally constituted through letters of commitment, agreements, or by assignment of higher authorities to work together toward the solution of problems in education. A membership from autonomous agencies and institutions which cuts across state boundaries as they attempt to solve problems or meet goals.

D.O.T. CODE: A nine-digit number used to identify a specific job within a given domain.

INSTRUCTIONAL SYSTEM DEVELOPMENT (ISD): A deliberate orderly process for planning and developing instructional programs which insures that personnel are taught the knowledges, skills, and attitudes essential for successful job performance. Depends on a description and analysis of the tasks necessary for performing the job, objectives, evaluation procedures to determine whether or not the objectives have been reached, and methods for revising the process based on empirical data.

OCCUPATIONAL INVENTORY (TASK INVENTORY BOOKLET): A survey instrument containing tasks performed by job incumbents within D.O.T.'s complete with background information and a list of tools and equipment.

PERFORMANCE-BASED INSTRUCTION: Instruction which, when properly designed and applied, results in the learner's demonstration of certain abilities. The desired abilities are selected before the instruction is designed and are clearly defined as observable performance objectives. In V-TECS catalogs, the abilities are primarily psychomotor. This type of instruction is also referred to as compentency-based instruction.

PERFORMANCE GUIDE (PG): A series of steps, arranged in a sequence ordinarily followed, which when completed may result in the performance of a task. Also called "teaching steps."

PROJECT: An occupational domain area selected by a V-TECS member state for catalog/development based upon the U. S. Department of Labor's Dictionary of Occupational Titles (D.O.T.).

STATE-OF THE-ART (SOA STUDY): Research conducted to determine the current status of performance-based instructional materials and practices in the domain area under study and to obtain other information that might be useful in catalog development.

TASK: A unit of work activity which constitutes logical and necessary steps in the performance of a duty. A task has a definite beginning and ending point in its accomplishments and generally consists of two or more definite steps.

TASK ANALYSIS: A characteristic of a task statement which makes its accomplishments crucial to the acceptable performance of a worker or student. A method of analysis which identifies the critical tasks and aids in determining the consequence of poor performance or lack of performance by a worker or student.

WRITING TEAM: A team of people representing instructors within subject matter expertise, persons having knowledge and experience in developing criterion-referenced measures, and local or state supervisors of incumbent workers whose function is to analyze occupational data and develop performance objectives and criterion-referenced measures for specific D.O.T. areas.

## EQUIPMENT BY PERCENTAGE RATING

| Equipment Description | Percentage of Members Using | Number of Members Using |
|---|---|---|
| Record Books | 98.41 | 124 |
| Current Periodicals or Magazines | 96.83 | 122 |
| Portable Record File | 95.24 | 120 |
| Radio | 92.86 | 117 |
| Depreciation Schedules | 87.30 | 110 |
| Farm Produce Price Lists | 80.16 | 101 |
| Telephone | 79.37 | 100 |
| Electric Calculator | 77.78 | 98 |
| Typewriter | 77.78 | 98 |
| Adding Machine | 76.19 | 96 |
| Farm Supply Catalogs | 72.22 | 91 |
| Filing Cabinet | 68.25 | 86 |
| Hand Calculator | 67.46 | 85 |
| Desk | 56.35 | 71 |
| Farm Equipment Catalogs | 51.59 | 65 |
| Department of Agriculture Crop and Livestock Information Handbook | 50.79 | 64 |
| Tractor Red Book | 45.24 | 57 |
| Trade Journals | 44.44 | 56 |
| Farm Management Service Publications | 39.68 | 50 |
| University Agriculture Bulletins | 36.51 | 46 |
| Interest Rate Tables | 33.33 | 42 |
| Income Tax Guides | 31.75 | 40 |
| University of Wisconsin Extension Budgeting Materials | 30.95 | 39 |
| A Complete Farm Management Informational Resource | 25.40 | 32 |
| Television Set | 17.46 | 22 |
| Production and Marketing | 2.38 | 3 |

**Additional Tools and Equipment (South Carolina)**

Diagnostic Lab Tests
Fertilizer/Agriculture Publications
Fertilizer Price Lists
Current Media and Publications (Pesticide Information)
Records for Previous Crop Year
Appropriate Seed/Plant Agriculture Publications
Crop Record Book
Budget

Calculator
Computer Service
Livestock Enterprise Publications
United States Department of Agriculture Publications (Young Stock)
Farm Supply Catalogs
Operator's Manual for Welder
Trade Journals
Agriculture Livestock Publications
Budget Forms
Farm Records
Agriculture Livestock Feeding Publications
Budget Guides
Livestock Marketing Publications
Livestock Products Marketing Publications
Radio/Television
Telephone
Current Market Quotations and Market History
Livestock Costs and Budgets
Marketing Information
Livestock Record Books
Listing of Available Breeding Services
Listing of Breeders with Stock for Sale
Sire Summaries
Agriculture Rent/Lease/Cost Publications
Contracts for Purchase, Rental, Lease, etc.
Insurance Information/Publications
Risk and Uncertainty Information/Publications
Agriculture/Machinery/Equipment Publications
Custom Rate Guides
Depreciation Schedules
Rent/Lease Guides
Listing of Available Livestock Improvement Programs
Dealers Guide Book
Depreciation Schedules
Equipment Record Books
Insurance Policy(s)
Typewriter
Complete Farm Management Informational Resource
Depreciation Schedules
Farm Equipment Catalog and Prices
Farm Management Service Publications
Income Tax Guides and Forms
Grades of Fuel, Oil, and Lubricant Offered by Supplier(s)
Operator's Manual of Machine to Be Serviced
Appropriate Mechanic's Tools
Checklist
Clip Board
File
Operator and Service Manuals
Service Records from Dealer/Supplier
Agriculture Farm Building Publications

Budget Forms (University Extension)
Calculator
Plan Service for Facility Planning
Agriculture Insurance Publications
Agriculture Farm Building Publications
Sample Bank Statements, Cancelled Checks, Checkbook, Deposit Receipt
Estate Planning Publications and Forms
Inventory Record Forms
Payroll Forms (Social Security, Federal and State Income Tax, Workman's Compensation, Profit Sharing Plans, etc.)
Microcomputer

## STATE-OF-THE-ART LITERATURE

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**Wisconsin County Plat Book.** Rockford Map Publishers, Inc., Dept. C., P. O. 6126, Rockford, Illinois, 1978.

Wisconsin Department of Public Instruction. "Enrollment Computer Printout." Madison: Wisconsin Department of Public Instruction, 1976.

Wisconsin Association of Vocational Agricultural Instructors. **Curriculum Guide for Wisconsin High Schools — Vocational Agriculture/Agribusiness.** Madison: Wisconsin Department of Public Instruction, 1975.

## RESOURCES COMPILED BY THE SOUTH CAROLINA WRITING TEAM

### Printed Resources

**Agricultural Cooperatives.** 1979. Oliver and Hillison. Agricultural Education Program, Division of Vocational and Technical Education, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.

**Agriculture Finance.** 7th ed. 1980. Lee, Boehlje, Nelson, and Murray. Iowa State University Press, South State Avenue, Ames, IA 50010.

**A Guide for Planning Family Spending.** February, 1978. H.M. Leaflet 524: Washington State University Extension Service. Reprinted by Clemson University Extension Service.

**Beef Cattle Record Book,** May 1981. Daniel B. Smith. Clemson University Extension Service.

Clemson Cooperative Extension Service. Clemson University, Clemson, S. C.

**Approved Practices and Varieties for Selected Crops**

**Corn and Soybean Basis in Selected South Carolina Markets,** Extension Economics Report 39

**Costs and Returns Per Acre,** Extension Economics Reports 53 and 49 (Enterprise Budgets — Row Crops, Forage and Small Grains, Vegetables, Fruit, Beef Cattle)

**Custom Work on Farms in South Carolina,** Bulletin 615, October 1978

**Fixed and Flexible Cash Rental Arrangements for Your Farm,** North Central Regional Extension Publication 75

**Irrigating Corn and Soybeans in South Carolina,** Cooperative Extension Circular 598

**Irrigating Your Lawn and Garden,** Circular 580

**Rening and Leasing Farm Buildings,** Bulletin 629

**Leasing or Renting Versus Ownership of Farm Equipment,** AE 349, Department of Agriculture, Economics and Rural Sociology

**Marketing Highlights,** Extension Agricultural Economics 3-7

**Money Map,** Extension Leaflet 20

**Performance of Field Crop Varieties in South Carolina,** Circular 178

**Recommended Varieties for South Carolina,** Circular 477, 1979

**Risk and Rent — What's Fair?** Agriculture Economics Bulletin 47

**South Carolina Farm Record Book**

**Swine Enterprise Account Book**

**Understanding and Using the Future Market, A Workbook for South Carolina Farmers,** Leaflet 10

**Credit in Agriculture,** 5th ed. Teacher's Guide. Farm Credit Banks of Omaha, Omaha, NE 68101.

Doane's Agricultural Service, Inc. 8900 Manchester Road, St. Louis, MO 63144.

**Doane's Agricultural Report** (Self-updating periodical)

**Facts and Figures for Farmers.** 1977 (no author)

**Do It Right the First Time.** 1978 (no author)

**Tax Guide for Farmers.** 1979 (no author)

**Estate Planning for Farmers.** 1979. Looney. Doane's Agricultural Service, Inc., 8900 Manchester Road, St. Louis, MO 63144.

**Farm Business Management Instructional Materials Year 1 and Year 2.** 1979. Hodgens and Myers. Oklahoma Curriculum and Instructional Materials Center, 1515 West Sixth Ave., Stillwater, OK 74074.

**Farm Machinery Fundamentals.** 1978. Finner. American Publishing Company, 2909 Syene Road, Madison, WI 53713.

**Farm Management Handbook.** Luening and Mortenson. The Interstate Printers and Publishers, Danville, IL.

**Farm Management: Principles, Budgets, Plans.** 1980. Stipes Publishing Company, 10-12 Chester Street, Champaign, IL 61802.

**Farm Market Bulletin.** South Carolina Department of Agriculture, Columbia, SC.

**Financial Management In Agriculture.** 1979. Hopkins, Barry, and Baker. The Interstate Printers and Publishers, Inc., Jackson at Van Buren, Danville, IL. 61832.

**Financial Management Manual: A Guide for Class and Contest Training.** 1978. Osborn and Schneeberger. The Interstate Printers and Publishers, Inc., Jackson at Van Buren, Danville, IL 61832.

**Financial Planning In Agriculture: A Key to Credit and Money Management.** 1977. Osborn and Schneeberger. The Interstate Printers and Publishers, Inc., Jackson at Van Buren, Danville, Il 61832.

**Instructional Units on Agricultural Marketing Principles.** 1976. Zurbrick and McCormick. Instructional Materials Laboratory, No. 10 Industrial Education Building, University of Missouri, Columbia, MO 65201.

**Instructional Units on Profit Maximizing Principles.** 1976. McCormick. Department of Agriculture, University of Arizona, Tuscon, AZ 85721.

**Instructor's Guide in Agricultural Management and Economics.** 1976. Denker. Instructional Materials Laboratory, No. 10 Industrial Education Building, University of Missouri — Columbia, Columbia, MO 65201.

Internal Revenue Service Publications
Department of the Treasury
Internal Revenue Service
District Director's Office in each state

Publication 225 -- **Farmers Tax Guide**

Publication 17 -- **Your Federal Income Tax for Individuals**

Kit -- **Understanding Taxes**

Form 10FO, Schedule F

Form 3468 -- Computation of Investment Credit

Form 534 -- Depreciation Schedules

Circular A — **Agricultural Employees Tax Guide**

Form 943 -- Employers Annual Tax Return of Agricultural Employees

Forms W-2, W-3, W-4, W-5, 943, 941C, 7018A

**Marketing Farm Products.** 1976. Shepherd, Futrell, and Strain. Iowa State University Press, South State Avenue, Ames, IA 50010.

**Modern Agricultural Management.** 1978. Osborn and Schneeberger. Prentice-Hall, Englewood Cliffs, NJ 07632.

**Planning for an Irrigation System.** American Association for Instructional Material, Engineering Center, Athens, GA 38601.

**Professional Hedging Handbook.** 1975. Oster. Mid-American Commodity Exchange, Department H, 175 W. Jackson Boulevard, Chicago, IL 60604.

**Soil Classification and Treatment.** State Department of Education, Office of Vocational Education, Columbia, SC 29201.

**Student Reference in Agricultural Marketing and Instructor's Guide in Agricultural Marketing.** 1979. Denker. Instructional Materials Laboratory, No. 10 Industrial Education Building, University of Missouri -- Columbia, Columbia, MO 65201.

**The Farm Management Handbook.** 1979. Mortensen and Luening. The Interstate Printers and Publishers, Inc., Jackson at Van Buren, Danville, Il. 61832.

### Human Resources

Business personnel directors

County Agricultural Stabilization Service (ASCS) office personnel

Custom operators in the area

District Soil Conservation Service (SCS) personnel

Farmers in the community

Local attorney

Local buyer of farm products

Local farmers utilizing custom service

Local feed, seed, and grain dealers

Local insurance agents

Representatives of mutual and stock insurance companies

State Extension Forester

United States Soil Conservation Personnel

### Other Resources

Daily newspaper crop reports

Farm land use plan

Farm machinery sales prices

Farm Soil Classification and Land Use Map

Farmer's Tax Guide, local Social Security Office

Informational literature from insurance companies (sample policies, claim forms, etc.)

Local County Soil Survey (SCS)

Soil Sample Box and Instruction Sheet

## SUBJECT MATTER REFERENCES USED IN OTHER V-TECS STATES

All states in the consortium were surveyed. The following information shows the result of the survey.

ALABAMA (as provided by Alabama)

**Agribusiness Management.** Gregg Division, McGraw Hill.

**Modern Marketing of Farm Products.** Interstate.

**Financial Planning in Agriculture.** Interstate.

**Doane's Farm Management Guide.** Doane-Western.

**The Farm Management Handbook.** Interstate.

**An Introduction to Agri-Business Management.** Interstate.

**Dairy Farm Management.** Delmar.

**Modern Agriculture Management.** Reston.

**Principles of Management in Agribusiness.** Reston.

FLORIDA
See attached list

GEORGIA
No references

ILLINOIS
No response

KENTUCKY
No response

MARYLAND
No references

MICHIGAN
No response

PENNSYLVANIA
No response

VIRGINIA

No references

WEST VIRGINIA

**Agribusiness Management**, West Virginia Vocational Curriculum Laboratory, 1979.

## FLORIDA

Ackerman, Tom; Barton, John; Freeman, Paul; Starling, John; and Roediger, Roger. **Interpretation of Farm Business Analysis: Transparency Masters.** Columbus, Ohio: Ohio State University, 1981.

Content: techniques for analyzing and improving agricultural production.
Audience: grades 10-14 and teachers.

**Agriculture Sales and Services: Student Material.** Stillwater, Okla.: Mid-America Vocational Curriculum Consortium, 1976.

Format: student modules.
Content: competency-based instructional materials designed to teach marketing and salesmanship.
Audience: grades 10-14 and teachers.

Albracht, James, ed. **Farm Management: Basic Core Curriculum.** Kansas Post-secondary Farm and Ranch Management Program. Topeka, Kan.: Kansas State Department of Education, n.d.

Format: teacher's guide.
Content: discusses the legal aspects of agricultural management.
Audience: grades 13-14 and teachers.

Allgood, James G., and Holcomb, Mary T. **Farmland Leasing.** Circular 607. Raleigh, N.C.: North Carolina Agricultural Extension Service, 1976.

Content: this booklet discusses the purpose of leasing, types of leases, determining the rent, share-lease agreements, and the legal aspects of leasing.
Audience: grades 10-12 and teachers.

Alston, Clifford. **Farm Real Estate Evaluation.** Cooperative Extension Service Circular 333. Gainesville, Fla.: University of Florida, n.d.

Content: This brochure analyzes factors which determine agricultural land prices.
Audience: students, farm managers, and teachers.

Apodaca, Eduardo A., ed. **Farm and Ranch Management.** Agricultural Management Series. Multi media kit. San Luis Obispo, Calif.: California Polytechnic State University, 1980.

Content: presents farm management techniques with clear concise photographs.
Audience: grades 10-14 and teachers.

Baker, Richard H. **Farm Records: A Management Tool.** Rev. ed. Columbus, Ohio: Ohio State University, 1976.

Format: teacher's guide.
Content: discusses the science of farm business management.
Audience: teachers.

Barker, Richard L., ed. **Profit-Maximizing Principles.** Revised by Richard A. Reid. Columbus, Ohio: Ohio State University, 1970.

Format: teacher's guide.
Content: discusses agricultural business management.
Audience: teachers.

Becker, William J., and Bartley, Gary. **The Agricultural Credit System.** Gainesville, Fla.: University of Florida, 1980.

Format: student modules.
Content: performance objectives, learning activities, and reference material on agricultural credit system.
Audience: grades 10-14 and teachers.

Carlile, Robert. **Agriculture Sales and Services.** Edited by Regina Decker. Stillwater, Okla.: Mid-America Vocational Curriculum Consortium, 1976.

Format: student modules.
Content: presents information on selling, advertising, and records.
Audience: grades 10-14 and teachers.

**Cash-Flow Analysis: A Farm Management Technique.** Cooperative Extension Service Circular 488. Gainesville, Fla.: University of Florida, 1981.

Content: this booklet offers a presentation of cash-flow analysis in Florida's agricultural industry.
Audience: grades 10-12 and teachers.

Collette, W. Arden. **Annual Farm Income and Expense Record.** Cooperative Extension Service Circular 438. Gainesville, Fla.: University of Florida, 1981.

Content: farm map, field record, receipts form, expense form, and tax worksheet.
Audience: students, farm managers, and teachers.

____________. **Ten-Year Inventory and Depreciation Record.** Cooperative Extension Service Circular 439. Gainesville, Fla: University of Florida, 1981.

Content: inventory, depreciation record, accounts receivable form, and net worth statement.
Audience: students, farm managers, and teachers.

**Commodity Trader's Scorecard.** Chicago: Mercantile Exchange, 1981.

Content: this booklet presents an introduction to hedging and futures trading.
Audience: grades 7-12 and teachers.

Covey, C. D. **1980 Handbook of Regulations Affecting Florida Farm Employers and Employees.** 2d rev. ed. Cooperative Extension Service Circular 476. Gainesville, Fla.: University of Florida, 1980.

Content: discusses the Occupational Safety and Health Act, Fair Labor Standards Act, and child labor laws.
Audience: grades 10-12, farm managers, and teachers.
Note: Late edition forthcoming.

Cromer, C. A.; Duncan, A. O.; Kirk, Percy B.; and Koble, Dan. **Vocational Agriculture Record Book for Agricultural Production.** Glen Burnie, Md.: French-Bray Printing Company, 1965.

Content: forms for recording important financial information about supervised programs in production agriculture.
Audience: grades 10-12, farm managers, and teachers.

Davis, Claude-Leonard. **The Farm Corporation.** Rev. ed. Bulletin number 745. Athens, Ga.: University of Georgia, 1976.

Content: concisely discusses the advantages of incorporation.
Audience: grades 10-14 and teachers.

________________. **The Incorporated Farm and Estate Planning.** Rev. ed. Bulletin number 748. Athens, Ga.: University of Georgia, 1977.

Content: discusses the objectives of planning the agricultural estate.
Audience: grades 10-14 and teachers.

Denker, Robert, ed. **Agricultural Management and Economics: Instructor's Guide.** Vol. 9. No. 2. Agricultural Education Series. Columbia, Mo.: University of Missouri-Columbia, n.d.

Format: teacher's guide and handouts.
Content: discusses the science of agricultural business management.
Audience: grades 10-14 and teachers.

________________. **Agricultural Marketing.** Print and transparencies. Columbia, Mo.: University of Missouri-Columbia, 1979.

Format: student reference, teacher's guide, handouts, and transparencies.
Content: discusses the marketing of agricultural commodities.
Audience: grades 10-14 and teachers.

**Doane's Farm Management Guide.** 14th ed. St. Louis, Mo.: Doane Agricultural Service, 1980.

Format: textbook, student workbook, and teacher's guide.
Content: discusses records, finances, taxation, law, and marketing.
Audience: grades 10-14 and teachers.

Donnermeyer, Joseph F., and Carson, Edward E. **Getting Started in Farming.** North Central Regional Extension Publication 81. Columbia, Mo.: University of Missouri-Columbia, 1979.

Content: short evaluation of problems facing beginning farmers.
Audience: grades 10-12 and teachers.

Ensminger, M. E. **The Stockman's Handbook.** 5th ed. Animal Agriculture Series. Danville, Ill.: Interstate Printers and Publishers, 1978.

Format: textbook.
Content: presents comprehensive livestock and forage production information.
Audience: grades 13-14 and teachers.

**Facts About Futures Trading: Trading in Tomorrows.** Chicago: Chicago Mercantile Exchange, 1978.

Content: this brochure analyzes the economic factors which influence commodities prices on the futures market.
Audience: grades 10-14 and teachers.

**Farm Business Management Contest.** Blacksburg, Va.: Virginia Polytechnic Institute and State University, 1980.

Format: student workbook.
Content: contest materials for agricultural business management.
Audience: grades 10-14 and teachers.

Freeman, Paul. **Farm Business Planning and Analysis Filing System.** Rev. ed. Columbus, Ohio: Ohio State University, 1975.

Format: student module.
Content: techniques for keeping useable records of agricultural production.
Audience: grades 10-14 and teachers.

**Fundamental Factors Affecting Feeder Cattle and Beef Cattle Futures.** Chicago: Chicago Mercantile Exchange, 1976.

Content: this brochure discusses fundamental factors influencing cattle prices.
Audience: grades 10-14 and teachers.

**Fundamental Factors Affecting Hog, Pork Belly and Ham Futures.** Chicago: Chicago Mercantile Exchange, 1981.

Content: this brochure discusses the economic factors that determine pork prices.
Audience: grades 10-14 and teachers.

Greene, R. E. L.; Mathis, Kary; Polopolus, Leo; and Holt, John. **Economic Data for Florida Agriculture, 1975-1980.** Gainesville, Fla.: University of Florida, 1980.

Content: statistical summary of crop yields during a five year period.
Audience: grades 10-14 and teachers.

Harsh, Stephen B.; Connor, Larry J.; and Schwab, Gerald D. **Managing the Farm Business.** Englewood Cliffs, N.J.: Prentice-Hall, 1981.

Format: textbook
Content: discusses the role of information in decision making, economic concepts, farm business organization alternatives, and accounting systems.
Audience: grades 13-14, administrators, and teachers.

Hayes, Jack, ed. **Cutting Energy Costs: The 1980 Yearbook of Agriculture.** Washington, D.C.: Government Printing Office, 1980. (0-326-621:QL 2)

Content: technical discussion on cutting energy costs in agriculture, forestry, and the family.
Audience: grades 13-14 and teachers.

Herbst, J. H. **Farm Management: Principles, Budgets, Plans.** 5th rev. ed. Champaign, Ill.: Stipes Publishing Company, 1980.

Format: textbook.
Content: comprehensive farm management guide with working examples.
Audience: grades 10-14 and teachers.

____________. **Increasing Earnings through Farm Records.** Urbana Ill.: University of Illinois, n.d.

____________. **Inventory Your Resources.** Urbana, Ill.: University of Illinois, n.d.

____________. **Keeping Records Up-to-Date.** Urbana, Ill.: University of Illinois, n.d.

____________. **Plan the Cropping System, and Estimate the Value of Crop Production.** Urbana, Ill.: University of Illinois, n.d.

____________. **Plan the Livestock System and Estimate Fertility Costs.** Urbana, Ill.: University of Illinois, n.d.

____________. **Starting to Keep Records.** Urbana, Ill.: University of Illinois, n.d.

__________. **Summarizing and Analyzing Records.** Urbana, Ill.: University of Illinois, n.d.

__________. **What Records Tell About this Farm.** Urbana, Ill.: University of Illinois, n.d.

Content: these eight filmstrips discuss the science of business management.
Audience: teachers.

Higgs, Roger; Heidenreich, Charles; Loberger, Richard; Cropp, Robert; and Mitchell, Milton. **Agricultural Mathematics: Problems in Production, Management, Marketing, Mechanization, Environmental Quality.** 2nd ed. Danville, Ill.: Interstate Printers and Publishers, 1981.

Format: textbook.
Content: comprehensive problems relative to all aspects of farm management with worked examples.
Audience: grades 10-14 and teachers.

Hodgens, Jim, and Myers, Leland. **Farm Business Management: Year One — Student Material.** Stillwater, Okla.: Oklahoma State Board of Vocational and Technical Education, 1979.

Format: student modules and transparency masters.
Content: competency-based instruction in agricultural business management.
Audience: grades 10-14, administrators, and teachers.

**How to Make Livestock Futures Work for You.** Chicago: Chicago Mercantile Exchange, 1981.

Content: this brochure discusses fundamental factors influencing hog, cattle, and grain markets.
Audience: grades 10-14 and teachers.

**Illinois Crop-Share Cash Farm Lease.** Urbana, Ill.: University of Illinois, n.d.

Content: this filmstrip presents the science of business management.
Audience: teachers.

**Introduction to Hedging.** 2d ed. Chicago: Board of Trade of the City of Chicago, 1978.

Format: textbook
Content: realistic presentation of futures trading and hedging.
Audience: grades 13-14 and teachers.

**Hedging Workbook.** 2d ed. Chicago: Board of Trade of the City of Chicago, 1978.

Format: student workbook to accompany **Introduction to Hedging.**
Content: realistic problems dealing with futures trading and hedging.
Audience: grades 13-14 and teachers.

Jaworski, Don, ed. **Instructional Resource Units for Individual On-Farm Instruction in Farm Training.** Madison, Wis.: Wisconsin Board of Vocational, Technical, and Adult Education, 1974.

Format: teacher's guide.
Content: discusses crop technology, agricultural economics, farm management, and safety.
Audience: teachers.

**Job Scene.** Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1976.

Format: game.
Content: covers personal budgeting.
Audience: grades 7-12 and teachers.

Kromhout, Ora M., ed. **Applying for a Job.** Rev. ed. Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1979.

Format: student module and teacher's guide.
Content: covers the process for procuring a job.
Audience: grades 7-12 and teachers.

__________. **Good Work!** Rev. ed. Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1979.

Format: student module and teacher's guide.
Content: covers the process for keeping a job.
Audience: grades 7-12 and teachers.

__________. **A Guide to Employability Skills Materials.** Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1975.

Format: reference manual.
Content: covers the process for procuring a job.
Audience: grades 7-12 and teachers.

__________. **Job Changes.** Rev. ed. Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1979.

Format: student module and teacher's guide.
Content: covers the process of changing jobs.
Audience: grades 7-12 and teachers.

__________. **Personal Finances.** Rev. ed. Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1979.

Format: student module and teacher's guide.
Content: covers personal budgeting.
Audience: grades 7-12 and teachers.

__________. **Your Job Search.** Rev. ed. Employability Skills Series. Tallahassee, Fla.: Florida Department of Education, 1979.

Format: student module and teacher's guide.
Content: covers the process for procuring a job.
Audience: grades 7-12 and teachers.

Kromhout, Ora M., ed. **Your Job: Will You Keep It?** Employability Skills Series. Multi media kit. Tallahassee, Fla.: Florida Department of Education, 1976.

Content: covers the process of keeping a job.
Audience: grades 7-12 and teachers.

**Learning Activity Packages in Agricultural Business.** Richmond, Va.: Virginia Department of Education, n.d.

Format: student modules.
Content: competency-based curriculum materials on credit, hedging, and cash flow.
Audience: grades 10-12 and teachers.

McCarl, Bruce, and Falck, Juerene. **Documentation Model B-9.** Station Bulletin number 98. Agricultural Experiment Station Bulletin Series. West Lafayette, Ind.: Purdue University, 1975.

Format: teacher's guide
Content: computer based agricultural record management and analysis system.
Audience: teachers.

McCully, James S., Jr., comp. **Lesson Plans for Teaching Basic Vocational Agriculture: Introduction to Livestock Production.** Section 2. Mississippi State, Miss.: Mississippi State University, 1981.

Content: suggestions for teaching the science of livestock production.
Audience: teachers.

**A Management Handbook for County Extension Professionals.** Gainesville, Fla.: University of Florida, n.d.

Content: presents procedures diagnosing farm management problems.
Audience: grades 10-12 and teachers.

Martin, Robert J., and Younge, Jim L. **Money Flow.** Mississippi State, Miss.: Mississippi State University, n.d.

Format: game
Content: designed to teach the concepts of money, income, expenses, profit, risk, and investment.
Audience: grades 10-12, administrators, and teachers.

Moore, C. L., and Justus, F. E., Jr. **Getting Started in Farming Via the Home Farm.** North Central Regional Extension Publication 84. Columbia, Mo.: University of Missouri-Columbia, n.d.

Content: short evaluation of problems facing beginning farmers.
Audience: grades 10-12 and teachers.

Nolting, Greg; Denker, Robert; and Stewart, Bob R. **Development of an Individualized and Group Instructional Program Based on Financial Management for Adult/Young Farmers in Vocational Agriculture Programs in Missouri.** Columbia, Mo.: University of Missouri-Columbia, 1980.

Format: teacher's guide.
Content: discusses procedures for developing competency-based curriculum materials for farm management programs.
Audience: teachers.

Nott, Sherrill, and Clark, Raymond J. **Transparency Masters for Teaching Introductory Farm Management.** Agricultural Economics Staff Paper 80-52. East Lansing, Mich.: Michigan State University, n.d.

Content: agricultural management terminology and relationships.
Audience: teachers.

Osburn, Donald D., and Richardson, William B. **Principles of Agricultural Management Decision Making.** Columbia, Mo.: University of Missouri-Columbia, 1975.

Format: teacher's guide.
Content: problems in fixed costs, variable costs, partial budgeting, and investment analysis.
Audience: teachers.

Osburn, Donald D., and Schneeberger, Kenneth C. **Modern Agriculture Management.** Reston, Va.: Reston Publishing Company, 1978.

Format: textbook and teacher's guide.
Content: comprehensive coverage of agricultural management from an economic perspective which dissusses planning, organization, resources, and investments.
Audience: grades 10-14 and teachers.

**Personal Management Handbook: Manpower Programs in Extension.** Mississippi State, Miss.: Mississippi State University, 1980.

Content: discusses motivation, time management, wages, and safety.
Audience: grades 10-14, farmers, and teachers.

Persons, Edgar A. **Addendum to Farm and Ranch Management Curriculum.** St. Paul, Minn.: University of Minnesota, 1979.

Format: teacher's guide.
Content: fertilizer energy demands and conservation in production agriculture.
Audience: teachers.

Persons, Edgar A., and Warner, James. **Farm and Ranch Management Education: A Course of Study for Adults.** 4th ed. Vol. 2. St. Paul, Minn.: University of Minnesota, 1979.

Format: student modules.
Content: discusses the science of farm business management.
Audience: grades 10-14 and teachers.

Persons, Edgar A.; Palmer, Roger E.; and Palan, Ralph L. **Farm and Ranch Management Education: A Course of Study for Adults.** 4th ed. Vol. 1. St. Paul, Minn.: University of Minnesota, 1977.

Format: teacher's guide.
Content: comprehensive course in agricultural business management.
Audience: teachers.

Pinna, W. P.; Vocke, Gary; and Wells, R. C. **General Partnerships and their Taxation.** Economics Information Report. Raleigh, N.C.: North Carolina Agricultural Extension Service, 1980.

Content: this report discusses the legal and tax problems of partnerships.
Audience: farm managers, administrators, and teachers.

**A Plan for Cooperative Agribusiness Education.** Tallahassee, Fla.: Florida Department of Education, 1980.

Content: this plan discusses the Florida Department of Education's strategy for improving agribusiness education.
Audience: administrators and teachers.

**Planning Guide for Kansas Farm Business Analysis Programs.** Topeka, Kan.: Kansas Department of Education, 1978.

Format: programmed text, student modules, and teacher's guide.
Content: competency-based units of instruction in records, planning, analysis, and management.
Audience: grades 10-14 and teachers.

Plueger, Michael; Tibbles, Jim; and White, Joseph R. **Curriculum Guide: Farm Business Management.** Agribusiness and Natural Resource Education. Ames, Iowa: Iowa State University, 1973.

Format: teacher's guide.
Content: includes competencies and learning activities for agricultural business management.
Audience: teachers.

Pugh, Charles R. **The Corporate Option for Family Farms.** Economics Information Report Number 61. Raleigh, N.C.: North Carolina State University, 1980.

Content: this report discusses the legal aspects of incorporation.
Audience: grades 10-14 and teachers.

Ramsey, Terence. **Estimating the Value of Farm Real Estate.** Ithaca, N.Y.: Cornell University, n.d.

Format: textbook and transparency masters.
Content: basis for estimating the value of agricultural land.
Audience: grades 10-12 and teachers.

Reeder, Dean, ed. **Vocational Agriculture IV: A Curriculum Guide — Twelfth Grade.** Stillwater, Okla.: Oklahoma State Board of Vocational and Technical Education, 1973.

Format: teacher's guide.
Content: worksheets, problems, and evaluation sheets for each module.
Audience: teachers.

Roediger, Roger, ed. **Good Farm Accounts: The First Step in Management — Student Manual.** Columbus, Ohio: Ohio State University, 1979.

Format: student workbook.
Content: discusses farm record keeping.
Audience: grades 10-14 and teachers.

Roy, Ewell P.; Corty, Floyd L.; and Sullivan, Gene D. **Economics: Applications to Agriculture and Agribusiness.** 2d ed. Danville, Ill.: Interstate Printers and Publishers, 1975.

Format: textbook.
Content: comprehensive text covering the impact of economics on all aspects of agriculture.
Audience: grades 13-14 and teachers.

Schneeberger, Kenneth C., and Osburn, Donald D. **Financial Planning in Agriculture: A Key to Credit and Money Management.** Danville, Ill.: Interstate Printers and Publishers, 1977.

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|---|---|
| Format: | textbook. |
| Content: | comprehensive coverage of agricultural financial management. |
| Audience: | grades 10-12 and teachers. |

Smith, O. Cecil. **Estate Planning with a Purpose.** Bulletin number 694. Athens, Ga.: University of Georgia, 1979.

| | |
|---|---|
| Content: | this bulletin discusses wills, transfers, and taxes. |
| Audience: | grades 10-14 and teachers. |

Starling, John T., and Roediger, Roger D. **Farm Business Planning and Analysis: Teaching Units.** Rev. ed. Columbus, Ohio: Ohio State University, 1980.

| | |
|---|---|
| Format: | student modules. |
| Content: | techniques for analyzing and improving agricultural production. |
| Audience: | grades 10-14 and teachers. |

Stoneberg, E. G. **Getting Started in Farming: So You Have Inherited a Farm.** North Central Regional Extension Publication 85. Columbia, Mo.: University of Missouri-Columbia, 1979.

| | |
|---|---|
| Content: | short evaluation of problems facing beginning farmers. |
| Audience: | grades 10-12 and teachers. |

Thomas, K. H.; Boehlje, M. D.; and Luening, R. A. **Getting Started in Farming: Mostly on Your Own.** North Central Regional Extension Publication 82. Columbia, Mo.: University of Missouri-Columbia, n.d.

| | |
|---|---|
| Content: | short evaluation of problems facing beginning farmers. |
| Audience: | grades 10-12 and teachers. |

Toben, George E. **Guide for Using the Vocational Agriculture Record Book for Production Agriculture.** Glen Burnie, Md.: French-Bray Printing Company, n.d.

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|---|---|
| Content: | provides instruction on how to use the Vocational Agriculture Record Book for Production Agriculture. |
| Audience: | grades 10-12, farm managers, and teachers. |

Trocke, John L. **Managing for Profit: Business Control.** Urbana, Ill.: University of Illinois, n.d.

| | |
|---|---|
| Content. | this filmstrip presents the science of business management. |
| Audience: | teachers. |

Wadley, James B. **Summary Guide to Florida's Water Rights.** Cooperative Extension Service Circular 412. Gainesville, Fla.: University of Florida, 1976.

Content: this booklet presents the legal aspects of acquiring and preserving water rights in Florida.
Audience: grades 10-12, farmers, and teachers.

__________. **Summary Guide to Regulation of Agricultural Land Use.** Cooperative Extension Service Circular 413. Gainesville, Fla.: University of Florida, 1977.

Content: discusses the state restrictions on the use of agricultural land.
Audience: grades 10-12.

Walker, Donald B. **Exploring the Farm Business Management Analysis Report.** White Bear Lake, Minn.: Minnesota Curriculum Services Center, 1978.

Format: student modules.
Content: agricultural business management.
Audience: grades 10-14 and teachers.

Wolanyk, Alison M. **Agricultural Business Principles: Fixed and Variable Costs.** Ithaca, N.Y.: Cornell University, n.d.

Format: student modules, workbook, and teacher's guide.
Content: discusses the science of farm business management.
Audience: grades 10-14 and teachers.

__________. **Agricultural Business Principles: Fixed Costs on Machinery and Buildings.** Ithaca, N.Y.: Cornell University, n.d.

Format: student modules, workbook, and teacher's guide.
Content: discusses the science of farm management.
Audience: grades 10-14 and teachers.

Workman, H. E.; Schneeberger, D.; and Trott, D. **Getting Started in Farming: Part-Time or Small Farms.** North Central Regional Extension Publication 83. Columbia, Mo.: University of Missouri-Columbia, n.d.

Content: short evaluation of problems facing beginning farmers.
Audience: grades 10-12 ad teachers.